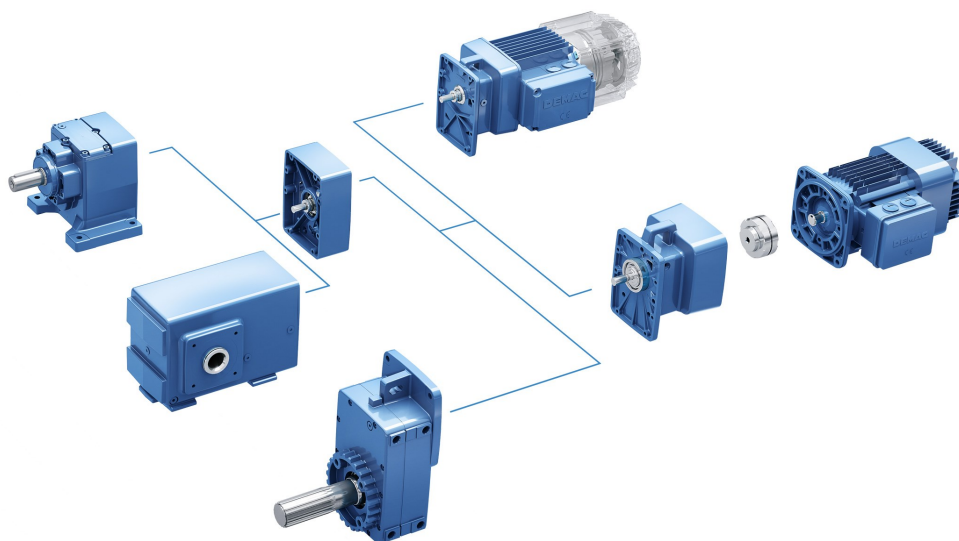


Gear Motor

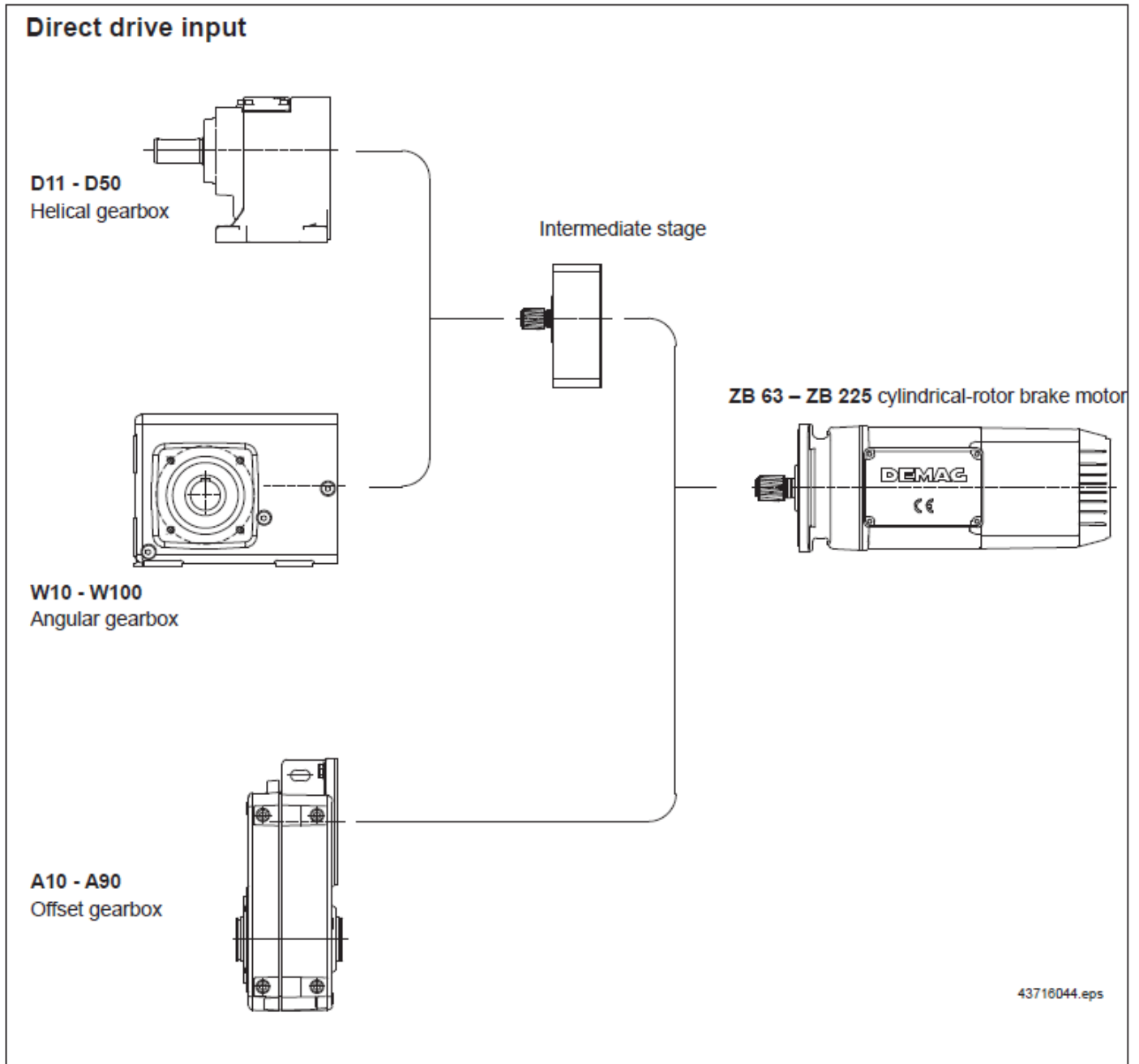
Quick Reference Guide



Contents

General Information	2
A-Style Gearbox	7
W-Style Gearbox	17
D-Style Gearbox	26
Motor Overview	34

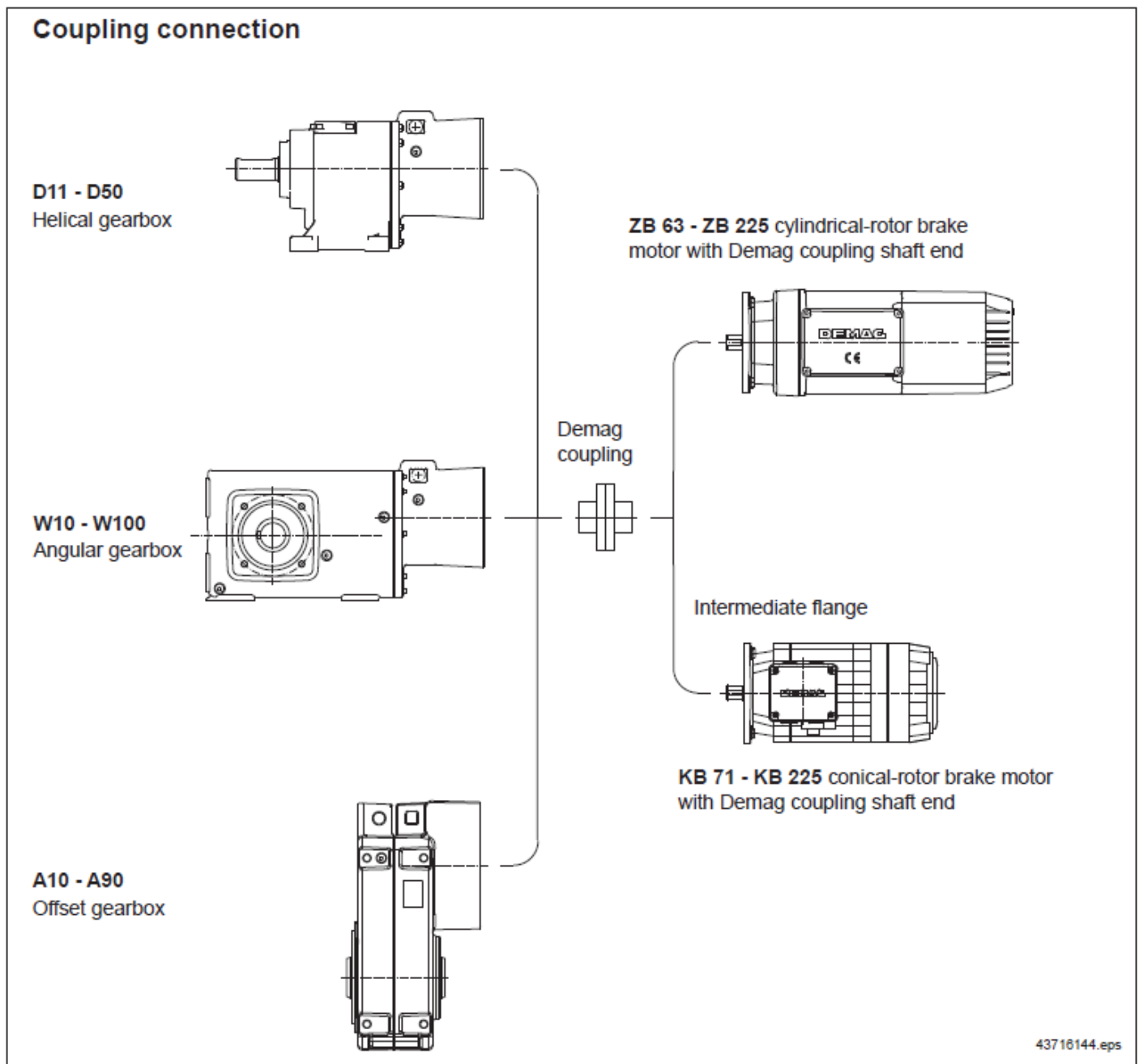
General Information- Modular Drive System



The Demag modular system makes it possible to implement tailor-made solutions for a vast range of tasks in the drives sector. For direct drive input, the various gearbox types can be combined with Demag ZB cylindrical-rotor brake motors via end caps.

The transmission ratio range of D type helical gearboxes and W type angular gearboxes can be significantly increased by means of an intermediate stage. A type off set gearboxes are designed for two and three-stage gear configurations.

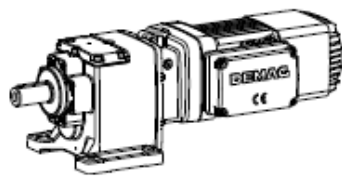
General Information- Coupling Connection



KB conical-rotor brake motors and ZB cylindrical-rotor brake motors with a Demag coupling shaft end can be connected with an intermediate flange and coupling to gearboxes with a coupling housing.

Gear Motor Overview

Demag type D helical geared motors



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are of coaxial configuration and offer a variety of possible connections thanks to the gearbox housing, which can be of flange or foot-mounted design.

The range includes 5 gearbox sizes. Sizes D11 to D41 have a housing of high-quality pressure die-cast aluminium, which guarantees high stability for high performance and low deadweight. Various flanges can be bolted to these sizes.

Size D50 has a grey cast iron housing with an integrated flange or foot rails.

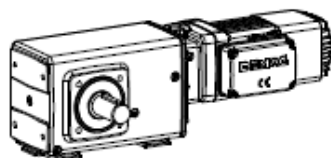
The basic gearboxes are of two-stage design. The transmission ratio of sizes D31 to D50 can be significantly increased by means of an intermediate stage.

Overview:

Size	D11	D21	D31	D41	D50
Transmission ratio range	2,8 - 63	2,8 - 63	3,15 – 250	3,15 – 250	2,78 – 251
Maximum output torque	90 Nm	130 Nm	200 Nm	330 Nm	550 Nm

Helical geared motors with particularly low output speeds on request.

Demag type W angular geared motors



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Enable you to mount the output flange, foot rails or torque brackets to meet your requirements.

The output shafts are available as solid or hollow shafts of various designs and diameters.

The range includes 10 sizes. The angular stage comprises a hypoid wheel pair for sizes W10 to W50. Hypoid gearboxes offer good efficiency in the lower power range for quiet running characteristics and higher transmission ratios.

Sizes W10 to W40 have a housing of high-quality gravity die-cast aluminium, which guarantees high stability for high performance and low deadweight. Sizes W50 to W100 have a grey cast-iron housing.

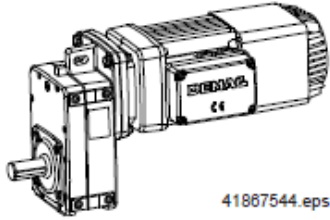
The basic versions of W10 to W50 angular gearboxes have two stages, sizes W60 to W100 have three stages. The transmission ratio of gearbox sizes W20 to W100 can be significantly increased by means of an intermediate stage.

Overview:

Size	W10	W20	W30	W40	W50	W60	W70	W80	W90	W100
Transmission ratio range	5,34 – 100	5,45 – 369	3,73 – 369	3,87 – 371	4,94 – 386	12,6 – 388	13,7 – 399	15,3 – 441	15,9 – 434	16,5 – 485
Maximum output torque	120 Nm	200 Nm	330 Nm	500 Nm	800 Nm	1350 Nm	2500 Nm	4000 Nm	7000 Nm	12000 Nm

Angular geared motors with particularly low output speeds on request.

Gear Motor Overview



Demag type A offset geared motors

offer the optimum solution for space-saving requirements thanks to their compact design.

The variety of output shafts – hollow shaft or solid shaft – and the possible mounting variants as a hollow-shaft gearbox of torque bracket, foot or flange-mounted design make it possible to implement cost-effective solutions for the given drive requirement.

For this reason, this gearbox type has become the preferred solution for travel applications all over the world.

The range includes 9 gearbox sizes. Sizes A10 to A40 have a dimensionally stable, vertically split housing of high-quality pressure die-cast aluminium. This guarantees high stability for high performance and low deadweight. Sizes A50 to A90 have a grey cast-iron housing.

Size A10 is of two-stage design, sizes A20 to A90 have two or three stages depending on the transmission ratio.

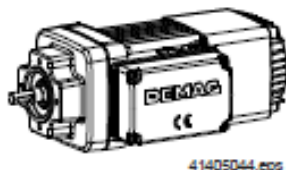
Overview:

Size	A10	A20	A30	A40	A50	A60	A70	A80	A90
Transmission ratio range	8,32 – 52,5	6,21 – 123	7,78 – 156	8,78 – 256	8,69 – 218	8,91 – 297	9,23 – 267	9,89 – 281	10,2 – 274
Maximum output torque	160 Nm	250 Nm	460 Nm	820 Nm	1450 Nm	2600 Nm	4600 Nm	8200 Nm	13800 Nm

Offset geared motors with particularly low output speeds on request.

$$1 \text{ Nm} = 0.7376 / \text{lb-ft}$$

Gear Motor Overview



Demag ZB cylindrical-rotor brake motors

are of optimum design for use with the gearbox system and to meet your application requirements. The motor range includes sizes ZB 63 to ZB 225. The output ratings of the 2, 4, 6 and 8-pole motors are graded according to the IEC classification. 4-pole ZBE motors meet the requirements of efficiency class IE2. 4-pole ZBP motors meet the requirements of efficiency class IE3. Refer to section 5.2.3 for technical data. The motor range includes pole-changing designs and motors with integrated flywheels for the particularly smooth movement of loads.

ZB 63 to ZB 132 motor housings are made of high quality aluminium alloy, ZB 160 to ZB 225 motors have grey cast iron housings.

ZBA, ZBE and ZBP motors can also be supplied without a gearbox in flange and foot-mounted design with IEC shaft dimensions or also with a Demag coupling shaft end. ZBF motors can be supplied as a basic motor with Demag coupling shaft end for gearboxes with a coupling connection.

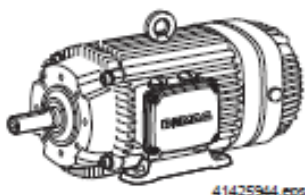


Demag B brakes for ZB motors

are available from sizes B003 to B680. These units are of double-surface disc brake design which are spring-activated when no voltage is applied. Various control modules are available for electrical brake release to provide switching times in line with application requirements.

Two sizes of brake can be fitted to each motor size for optimum adaptation to torque, switching frequency and adjustment interval requirements.

The torque range of each brake size can be further adjusted using various brake spring combinations.



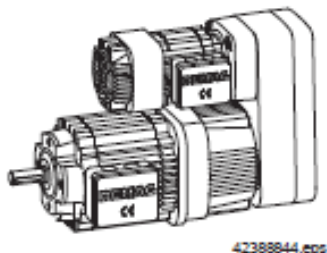
Demag KB conical-rotor brake motors

Can be connected to the new Demag gearboxes via the Demag coupling system. They are available with various numbers of poles in sizes 71 to 225 in single-speed design or as pole-changing motors.

KB 71 to KB 125 motor housings are made of high quality aluminium alloy, KB 140 to KB 225 motors have grey cast iron housings.

The KB conical-rotor brake motor is a combination of electric motor and spring-actuated brake in one unit functioning on the conical-rotor principle.

Without the need for an additional brake control module, the brake is automatically released by the movement of the rotor and is applied when the motor is switched off. This principle is particularly suitable for high switching frequencies and braking operation and for line-controlled lifting drives and is field-proven in millions of applications worldwide.



The conical-rotor principle offers a further advantage: it allows a microspeed combination motor to be used. This is a unit comprising two motors with an intermediate mechanical gearbox.

The intermediate gearbox makes it possible to achieve transmission ratios of 500:1 on the main motor output shaft by additionally utilising the differing numbers of poles of the main motor (e.g. 2-pole) and microspeed motor (e.g. 8-pole).

A Style Gearbox Types

Housing designs

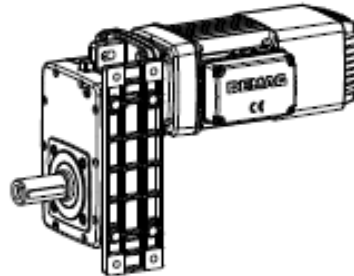
AUH 20 - AUH 90

Universal type



AGV 30 - AGV 90

Foot-mounted type



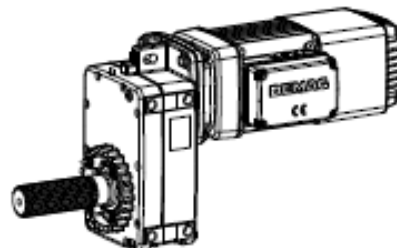
AFV 20 - AFV 90

Flange-mounted type



AME 10 - AME 40

Torque bracket type

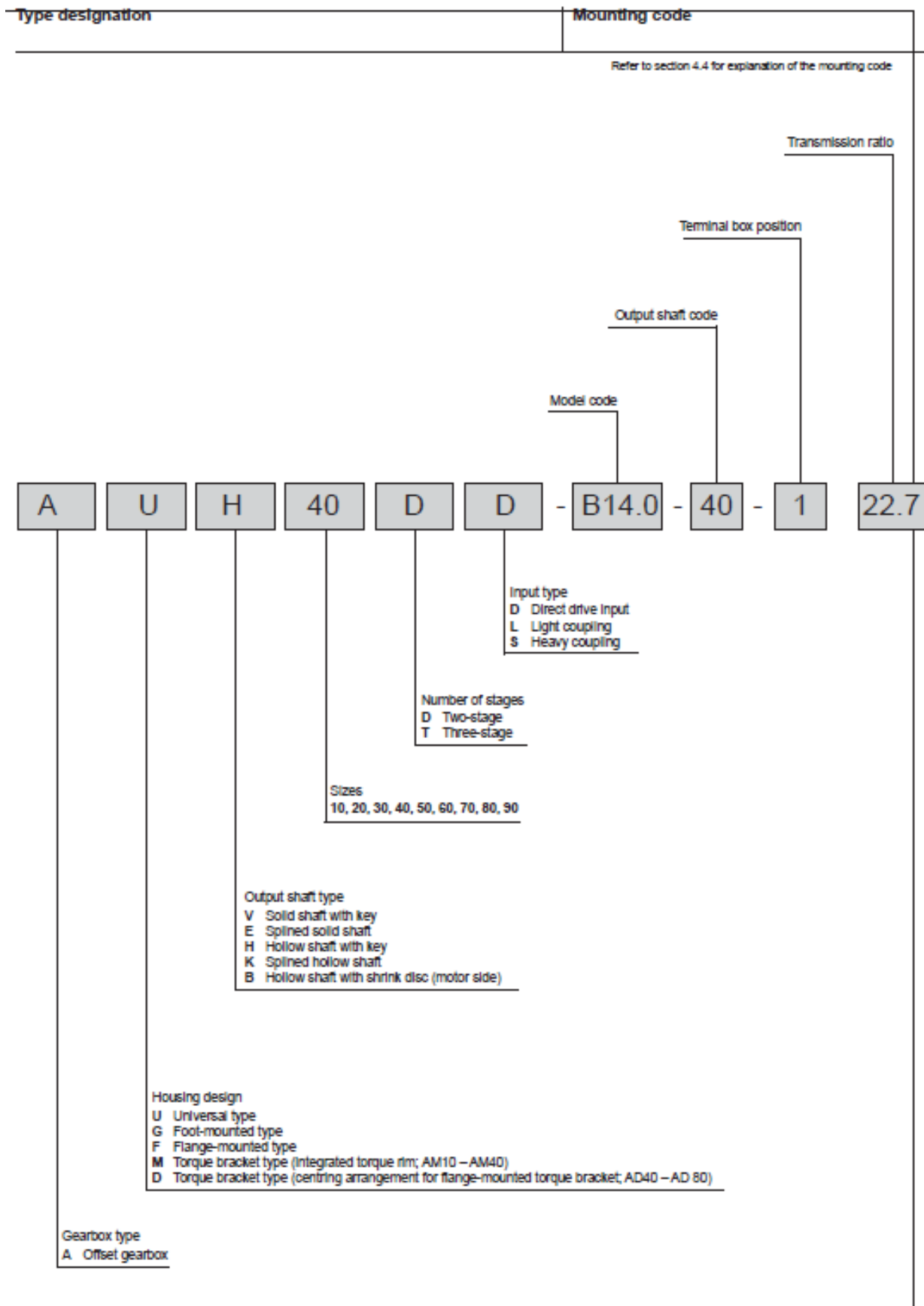


ADK 40 - ADK 80

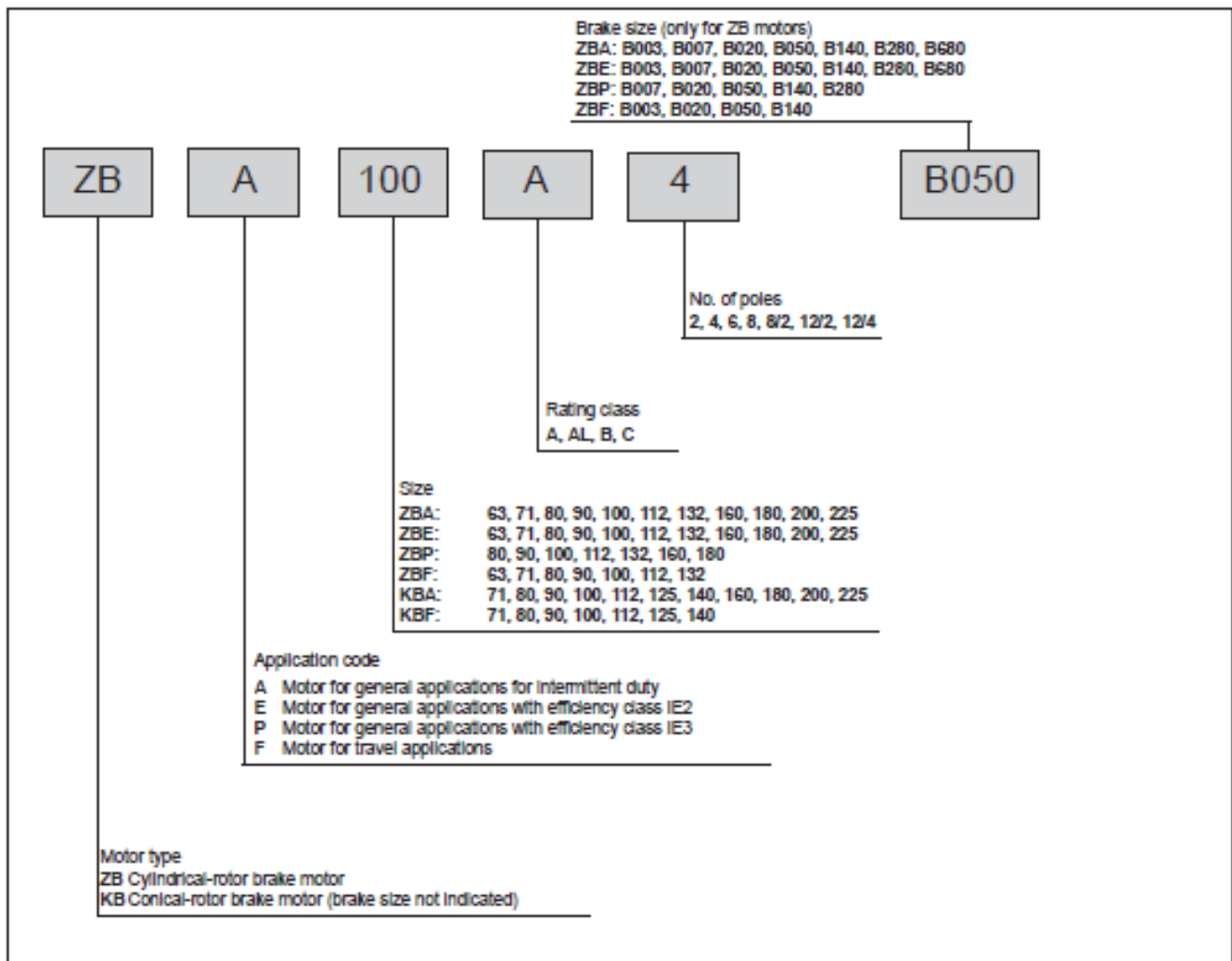
Torque bracket type



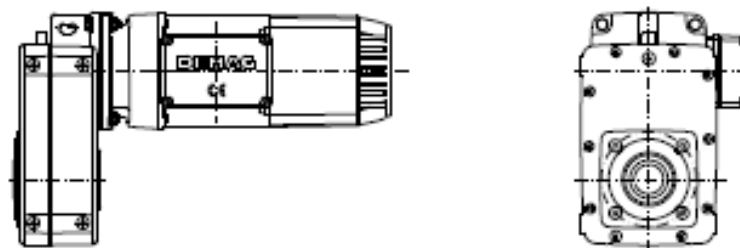
A Style Gearbox Mounting Code Designation



A Style Gearbox | Motor and Brake Type Designation



AUH 40 DD-B14.0-40-1-22.7 ZBA 100 AL4 B050



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A Style Gearbox | Output Shaft Codes

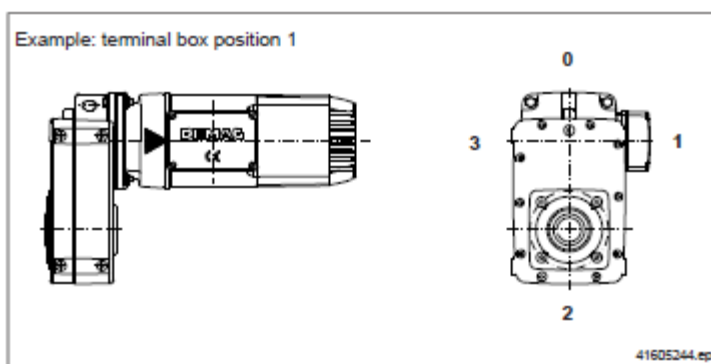
Output shaft code:

The output shaft size is indicated by the following codes:

Size		A 10	A 20	A 30	A 40	A 50	A 60	A 70	A 80	A 90	
Standard output shaft code	Solid shaft with key on cover side	V	–	25	30	40	50	60	70	90	110
	Solid shaft with splines on cover side ¹⁾	E	30	35	45	50	65	75	90	110	–
	Solid shaft with splines on both ends ¹⁾	E	11	11	11	11	11	11	11	11	–
	Hollow shaft with key	H	22	24	35	40	50	60	70	90	100
	Splined hollow shaft	K	25	30	30 / 35	35 / 45	45 / 50	65	75	90	110
	Hollow shaft with shrink disc on motor side	B	–	28 / 30 ²⁾	35 ³⁾	40 ³⁾	50 ³⁾	60	70	90	100
Option output shaft code	Solid shaft with key on both ends	V	–	–	11	11	11	11	11	11	11
	Solid shaft with key on motor side	V	–	–	12	12	12	12	12	12	12
	Solid shaft without key on cover side	V	–	125	130	140	150	160	170	190	210
	Solid shaft with key on cover side in inches	V	–	225	230	240	250	260	270	290	310
	Hollow shaft with key in inches	H	222	224	235	240	250	260	270	290	300

Terminal box position:

The terminal box of the motor can be installed in four different positions. The positions are defined as 0, 1, 2 or 3 looking at the motor shaft end-on (see ► in sections 4.4.1 to 4.4.5).



For vertical motor mounting arrangements, the terminal box is coded according to model code B14.0 or B6.0, B5.0, M0, D1.

Gearbox transmission ratio:

Refer to the "Transmission ratio i" column in the "Offset geared motors" selection tables for the transmission ratio.

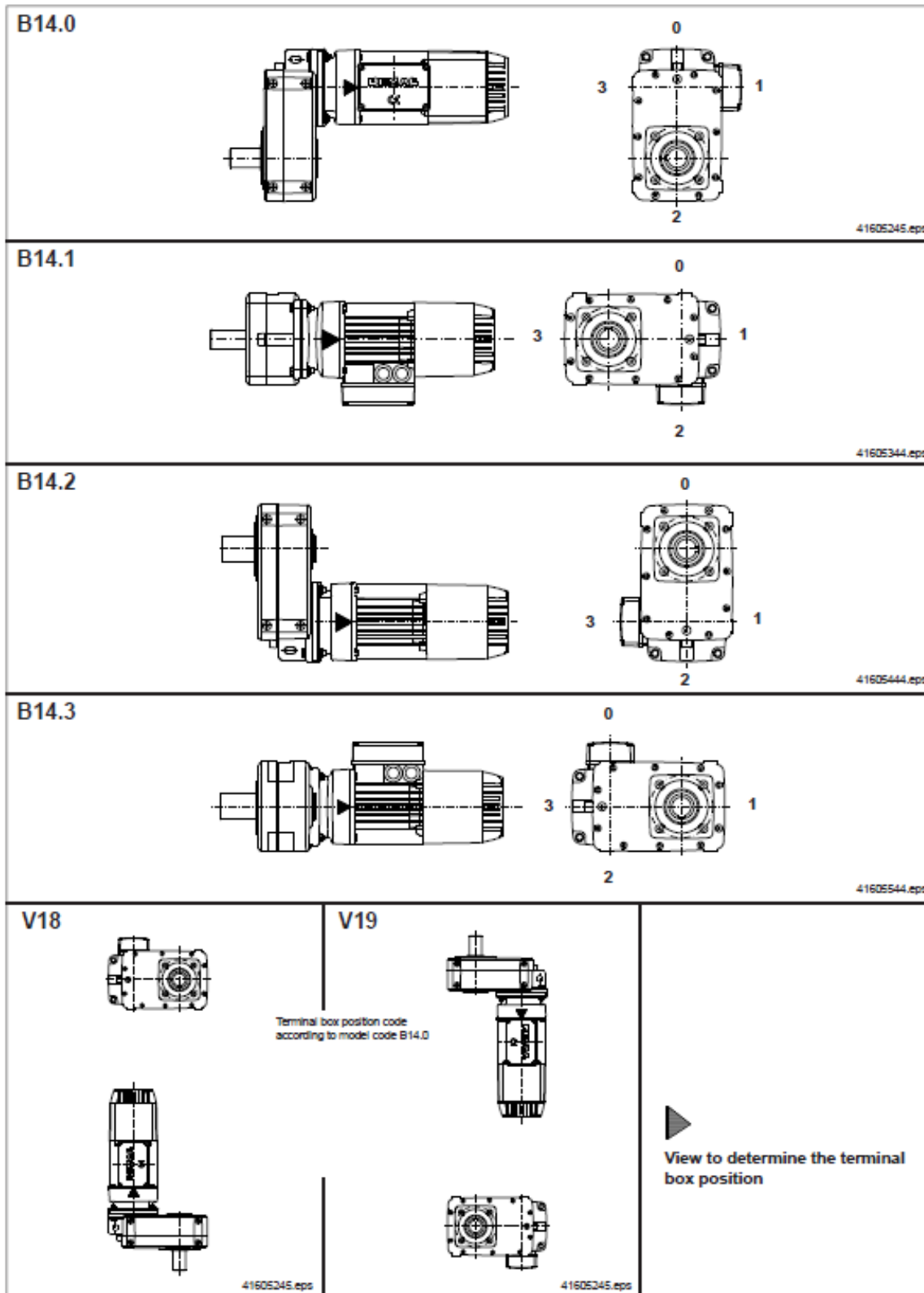
A Style Gearbox | Model Code

Universal type U

Model B14, V19, V18

Gearbox end face with centring and internal thread, sections on both side cheeks machined, bore holes with internal thread

Sizes A20 - A90



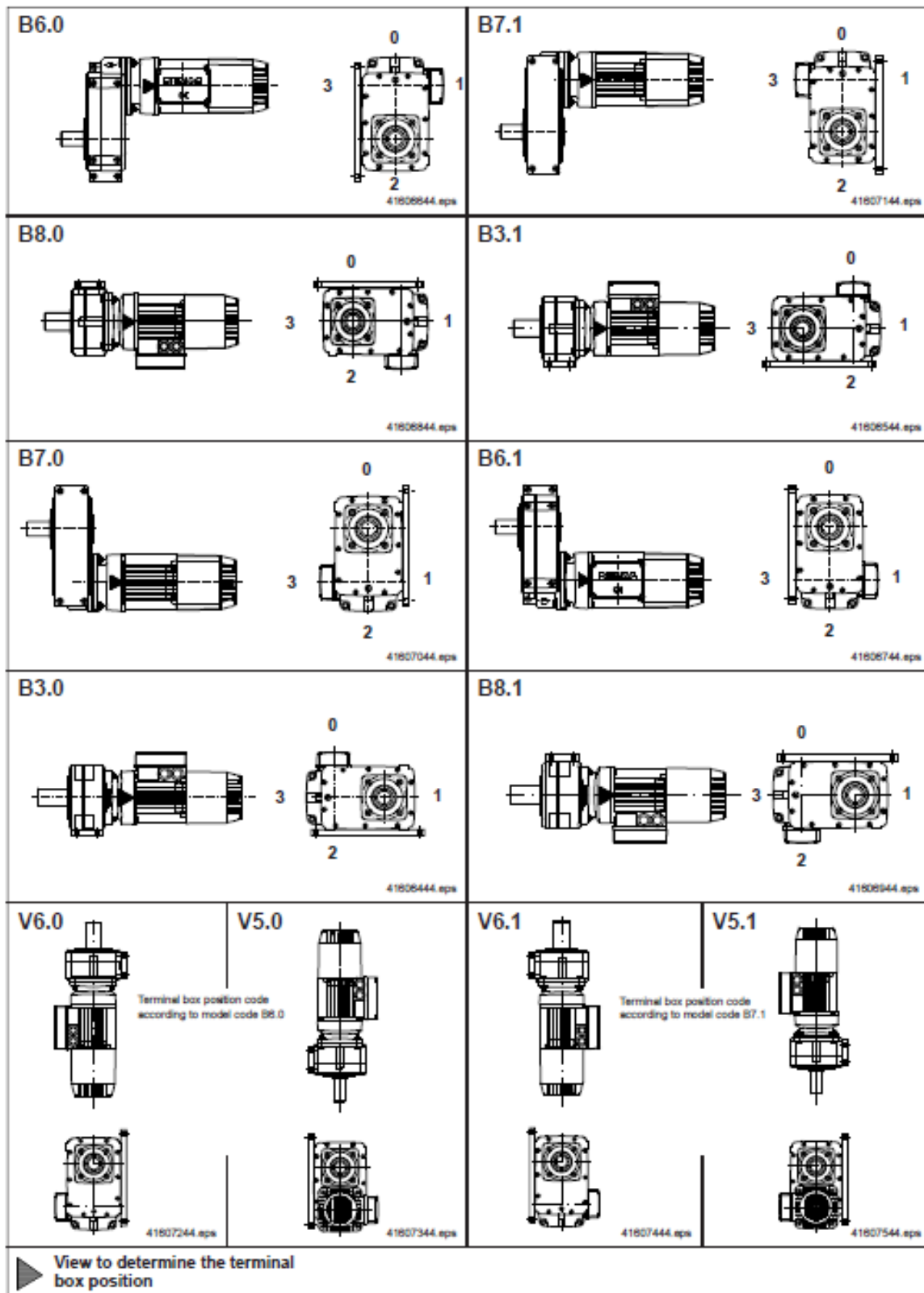
A Style Gearbox | Model Code

Foot-mounted type G

Model B6, B8, B7, B3, V5, V6

Foot mounting arrangement

Sizes A30 - A90



A Style Gearbox | Model Code

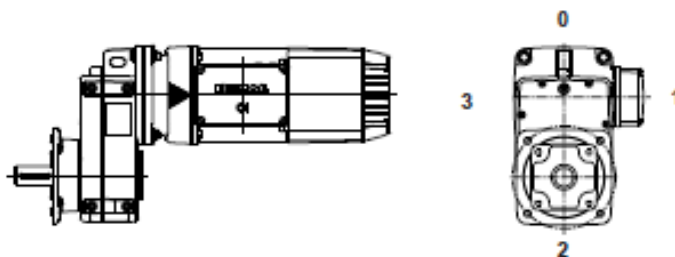
Flange-mounted type F

Model B5, V3, V1

Flange mounting arrangement with through-holes

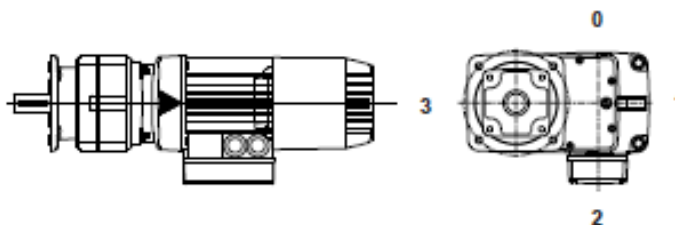
Sizes A20 - A90

B5.0



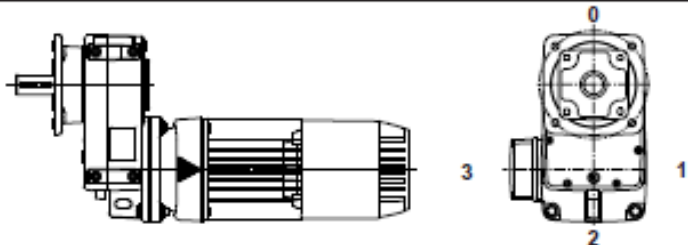
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B5.1



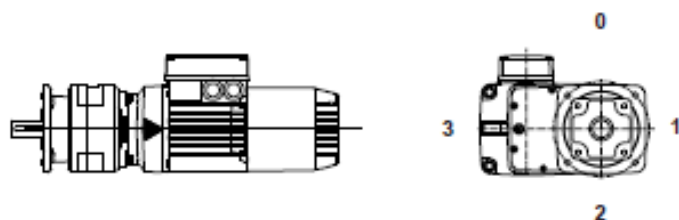
41805844.eps

B5.2



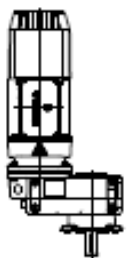
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B5.3



41805844.eps

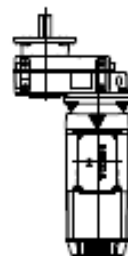
V1



Terminal box position code
according to model code B5.0

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V3



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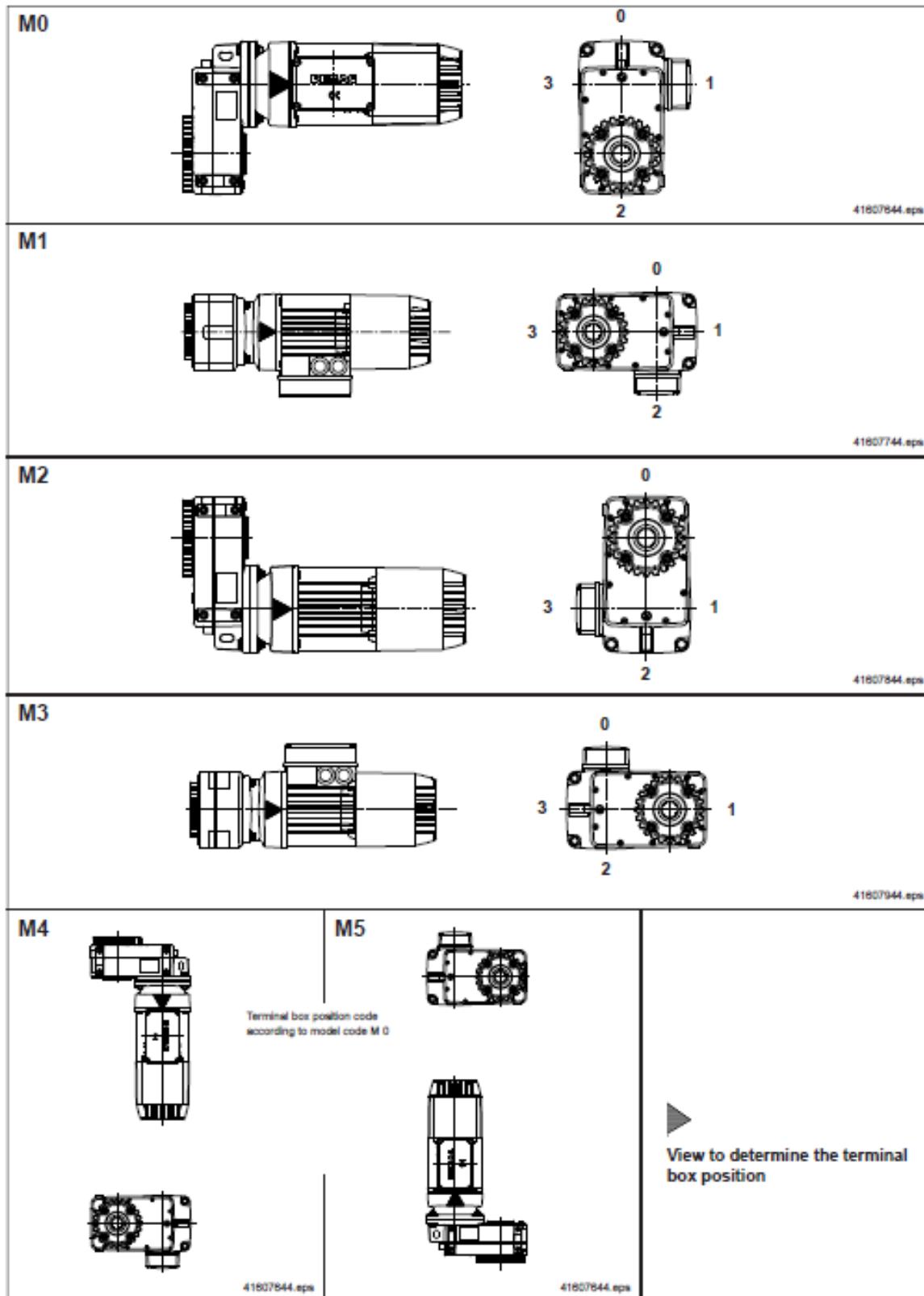
View to determine the terminal
box position

A Style Gearbox | Model Code

Torque bracket type **M**

Torque bracket mounting arrangement

Sizes A10 - A40

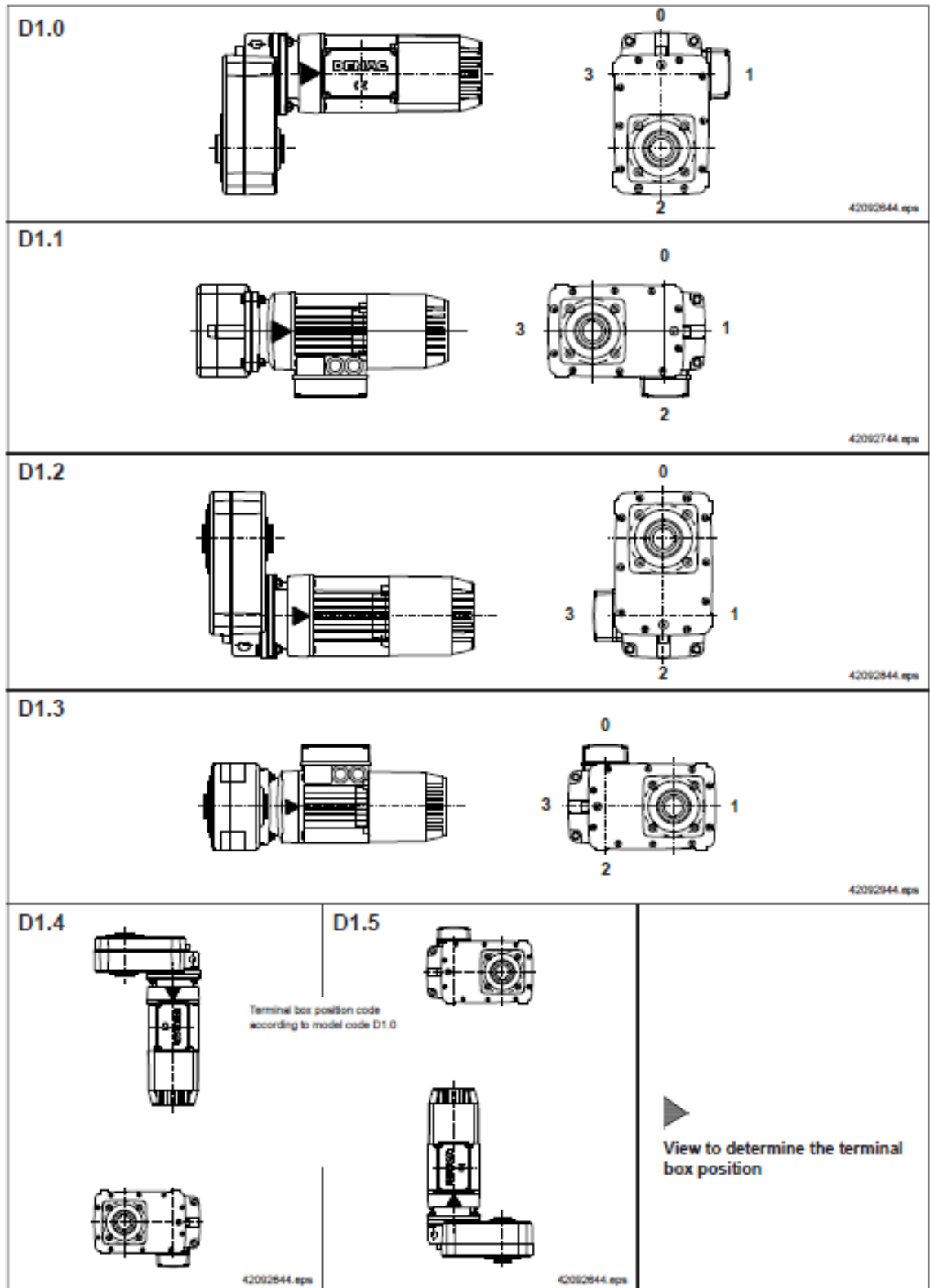


A Style Gearbox | Model Code

Torque bracket type D

Gearbox end face with centring and internal thread

Sizes A40 - A80



A Style Gearbox | Gearbox Ratio Ranges

Motor	Possible transmission ratios for gearbox size								
	A 10DD	A 20DD A 20TD	A 30DD A 30TD	A 40DD A 40TD	A 50DD A 50TD	A 60DD A 60TD	A 70DD A 70TD	A 80DD A 80TD	A 90DD A 90TD
ZBA	12,2 - 52,5	20,1 - 28	39,4 - 71,9	—	—	—	—	—	—
ZBF	8,32 - 52,5	13,9 - 28	25,3 - 71,9	49,0 - 61,6	—	—	—	—	—
ZBA/ZBE	8,32 - 52,5	9,95 - 28	19,9 - 71,9	36,1 - 61,6	—	—	—	—	—
ZBA/ZBE	8,32 - 52,5	6,87 - 28	14,8 - 71,9	25,1 - 61,6	—	—	—	—	—
ZBF	8,32 - 52,5	9,95 - 28	18,1 - 71,9	36,1 - 61,6	—	—	—	—	—
ZBA	8,32 - 52,5	6,21 - 28	8,99 - 71,9	14,9 - 61,6	—	—	—	—	—
ZBA/ZBE	8,32 - 52,5	6,21 - 28	7,78 - 71,9	8,78 - 61,6	19,9 - 71,6	39,2 - 67,9	68,1 - 68,1	—	—
ZBF	8,32 - 52,5	6,21 - 28	11,6 - 71,9	22,7 - 61,6	46,7 - 71,6	77,2 - 297	146 - 267	198 - 281	—
ZBA/ZBE/ZBP	8,32 - 35	6,21 - 28	7,78 - 71,9	8,78 - 61,6	13,9 - 71,6	24,2 - 67,9	44,1 - 68,1	—	—
ZBA/ZBE/ZBP	8,32 - 52,5	6,21 - 28	7,78 - 71,9	8,78 - 61,6	10,7 - 71,6	19,5 - 67,9	30,9 - 68,1	57,2 - 68,9	—
ZBA/ZBE/ZBP	—	6,21 - 28	7,78 - 71,9	8,78 - 61,6	8,69 - 71,6	12,9 - 67,9	24,8 - 68,1	39,8 - 68,9	69,7 - 69,7
ZBF	—	6,21 - 28	7,78 - 71,9	11,7 - 61,6	26,6 - 71,6	48,8 - 67,9	—	—	—
ZBA/ZBE/ZBP	—	6,21 - 28	7,78 - 71,9	8,78 - 61,6	8,69 - 71,6	8,91 - 67,9	16,7 - 68,1	32,4 - 68,9	54,8 - 69,7
ZBF	—	6,21 - 28	7,78 - 71,9	8,78 - 61,6	17,8 - 71,6	35,6 - 67,9	61,3 - 68,1	—	—
ZBA/ZBE/ZBP	—	6,21 - 28	7,78 - 62,2	8,78 - 61,6	8,69 - 71,6	8,91 - 67,9	11,9 - 68,1	22,2 - 68,9	39,3 - 69,7
ZBF	—	6,21 - 28	7,78 - 39,4	8,78 - 61,6	8,69 - 71,6	8,91 - 67,9	9,23 - 68,1	17,6 - 68,9	30,8 - 69,7
ZBA/ZBE/ZBP	—	6,21 - 28	7,78 - 39,4	8,78 - 61,6	8,69 - 71,6	8,91 - 67,9	9,23 - 68,1	17,6 - 68,9	30,8 - 69,7
ZBF	—	6,21 - 28	7,78 - 45,5	8,78 - 61,6	12,0 - 71,6	21,8 - 67,9	39,7 - 68,1	68,9 - 68,9	—
ZBA/ZBE/ZBP	—	6,21 - 28	7,78 - 18,1	8,78 - 31,1	8,69 - 63,9	8,91 - 67,9	9,23 - 68,1	12,3 - 68,9	22,3 - 69,7
ZBF	—	6,21 - 28	7,78 - 39,4	8,78 - 61,6	8,69 - 71,6	14,7 - 67,9	24,8 - 68,1	44,1 - 68,9	—
ZBA/ZBE/ZBP	—	6,21 - 28	7,78 - 12,8	8,78 - 22,7	8,69 - 50,3	8,91 - 67,9	9,23 - 68,1	9,89 - 68,9	15,7 - 69,7
ZBF	—	6,21 - 28	7,78 - 31,3	8,78 - 55,7	8,69 - 71,6	9,98 - 67,9	21,5 - 68,1	36,0 - 68,9	62,8 - 69,7
ZBA	—	6,21 - 28	7,78 - 23	8,78 - 44,3	8,69 - 71,6	8,91 - 67,9	9,23 - 68,1	9,89 - 68,9	12,9 - 69,7
ZBA/ZBE/ZBP	—	6,21 - 28	—	—	8,69 - 56,4	8,91 - 67,9	9,23 - 68,1	9,89 - 68,9	11,3 - 69,7
ZBA/ZBE/ZBP	—	6,21 - 28	—	—	8,69 - 12	8,91 - 21,8	9,23 - 39,7	9,89 - 68,9	10,2 - 69,7
ZBA/ZBE/ZBP	—	6,21 - 28	—	—	8,69 - 36,7	8,91 - 67,9	9,23 - 68,1	9,89 - 68,9	10,2 - 69,7
ZBA/ZBE	—	6,21 - 28	—	—	—	—	9,89 - 44,1	—	10,2 - 69,7
ZBA/ZBE	—	6,21 - 28	—	—	—	—	—	9,89 - 39,8	10,2 - 69,7
ZBA	—	6,21 - 28	—	—	—	—	—	9,89 - 32,4	10,2 - 54,8
ZBA/ZBE	—	6,21 - 28	—	—	—	—	—	9,89 - 27,9	10,2 - 49,4
ZBA/ZBE	—	6,21 - 28	—	—	—	—	—	9,89 - 25,1	10,2 - 43,6

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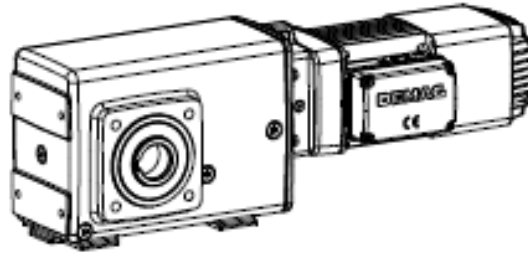
The table lists the possible transmission ratio ranges of motor/gearbox combinations for direct drive input.

Since the outputs and number of poles of the motors are not considered here, the selected combination must be checked together with the relevant duty factor. The duty factor must not be less than 0,9 and should not exceed 15.

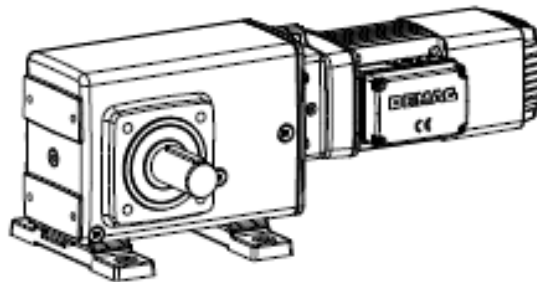
W Style Gearbox Types

Housing designs

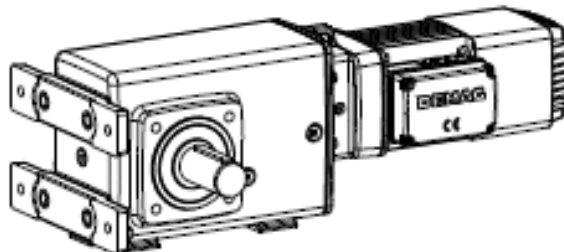
WUH 10 - WUH 100
Universal type



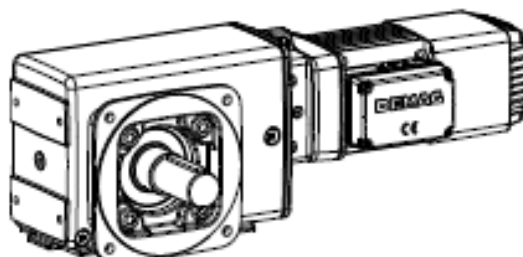
WGV 10 - WGV 100
Foot-mounted type



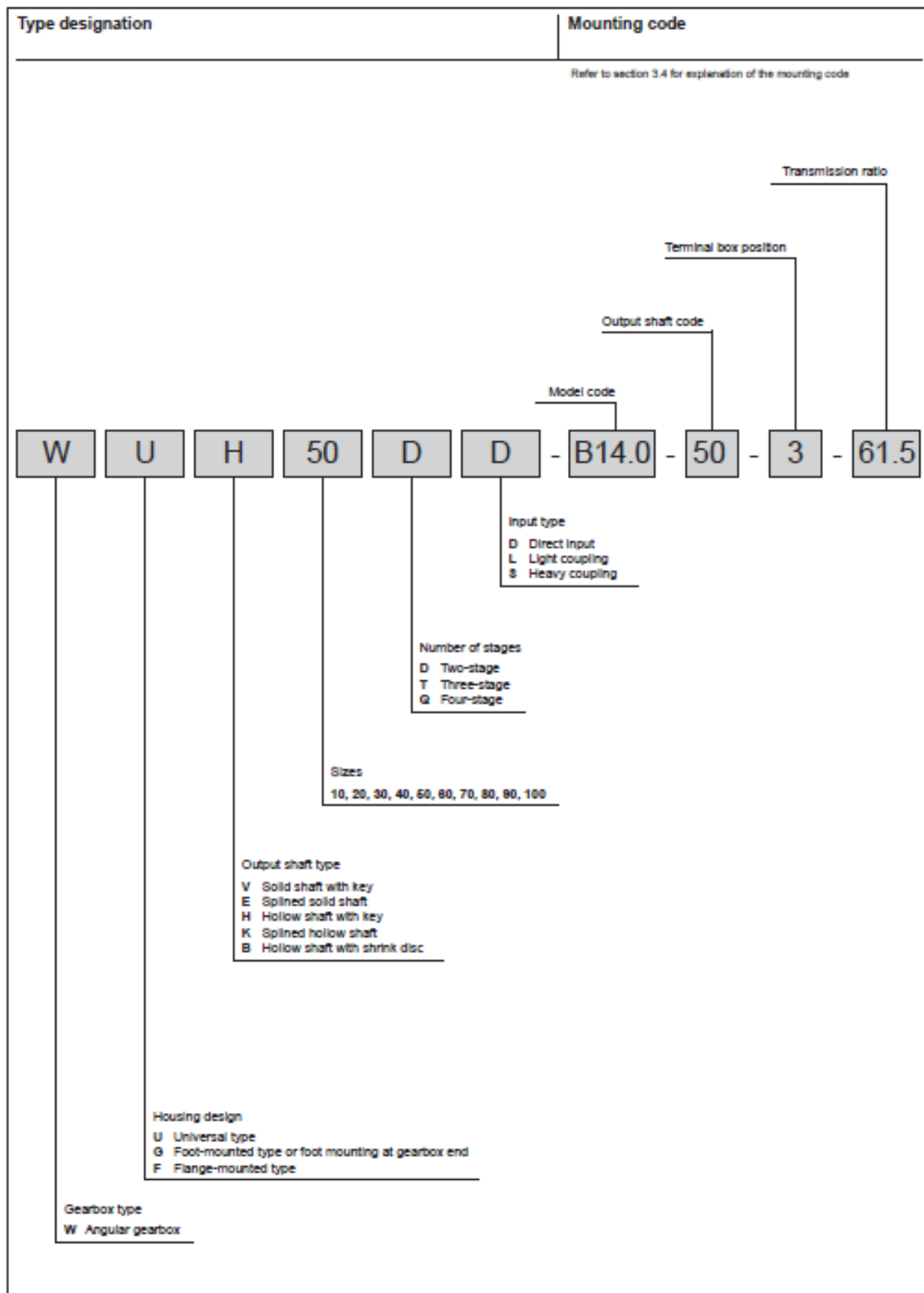
WGV 10 - WGV 100
Foot-mounted type



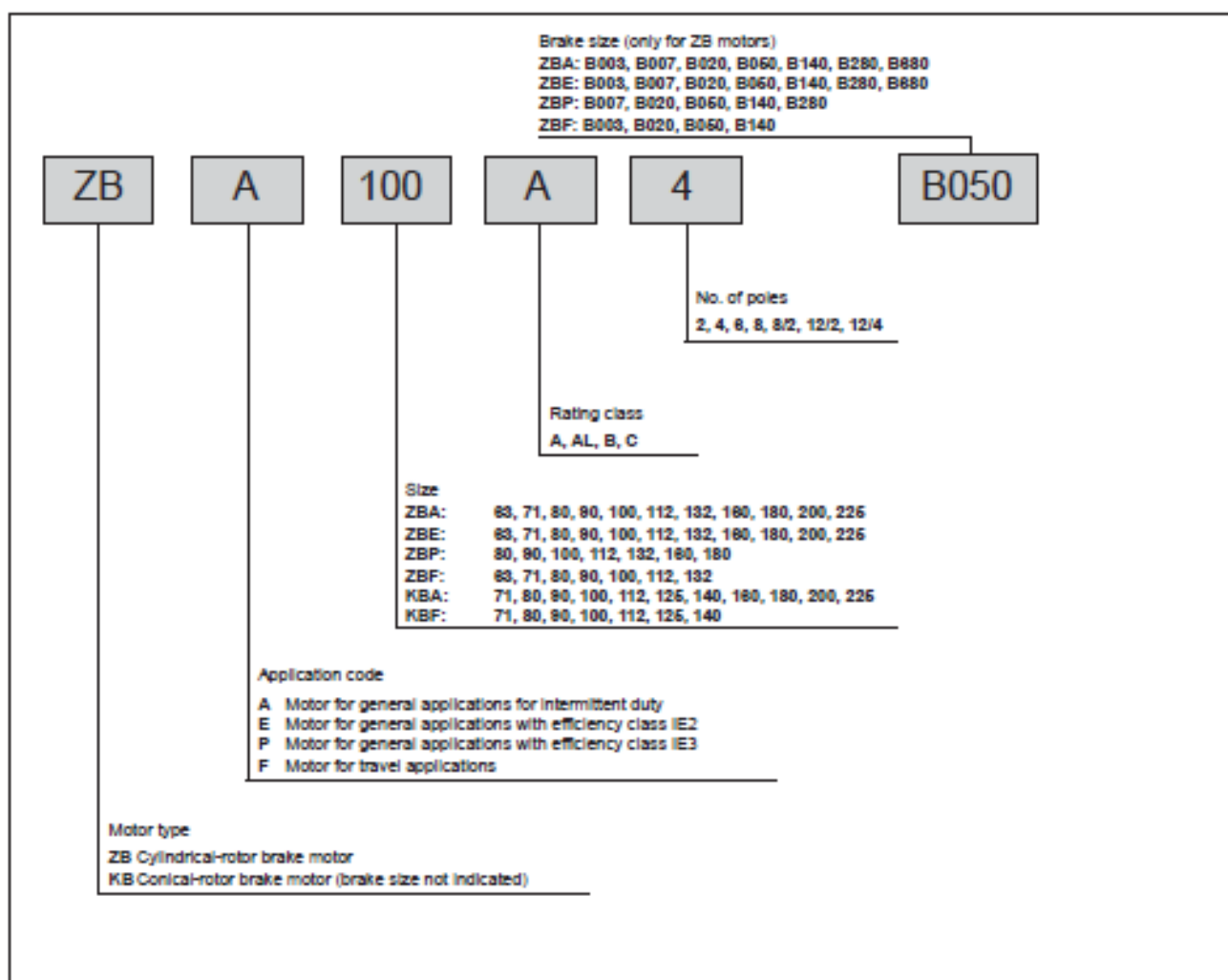
WV 10 - WV 100
Flange-mounted type



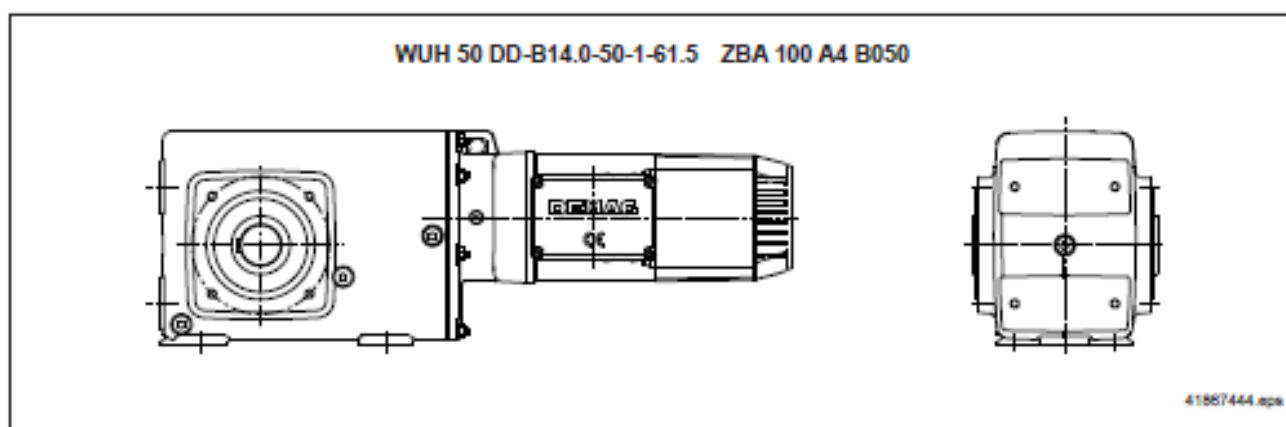
W Style Gearbox | Mounting Code Designation



W Style Gearbox | Motor & Brake Type Designation



3.3 Code example



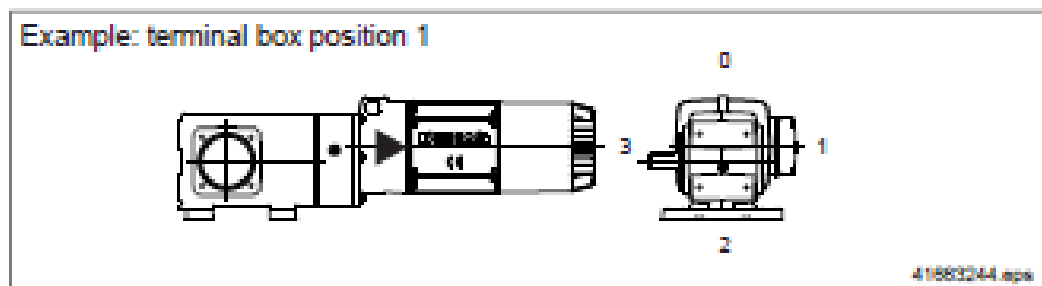
W Style Gearbox | Output Shaft Codes

Output shaft code:

The output shaft size is indicated by the following codes:

Size			W 10	W 20	W 30	W 40	W 50	W 60	W 70	W 80	W 90	W 100
Standard output shaft code	Solid shaft with key ¹⁾	V	25	25	30	40	50	50	60	70	90	110
	Solid shaft with key on both ends	V	11	11	11	11	11	11	11	11	11	11
	Splined solid shaft ^{1) 2)}	E	30	35	45	50	65	65	75	90	110	–
	Solid shaft with splines on both ends ²⁾	E	11	11	11	11	11	11	11	11	11	–
	Hollow shaft with key	H	30	30	35	40	50	50	60	70	90	100
	Splined hollow shaft	K	25	30	35	45	50	50	65	75	90	110
	Hollow shaft with shrink disc ³⁾	B	25	28 / 30	35	40	50	50	65	70	90	100
Option output shaft code	Solid shaft without key	V	125	125	130	140	150	150	160	170	190	200
	Solid shaft with key in inches	V	225	225	230	240	250	250	260	270	290	300
	Hollow shaft with key in inches	H	230	230	235	240	250	250	260	270	290	300

Terminal box position: The terminal box of the motor can be installed in four different positions. The positions are defined as 0, 1, 2 or 3 looking at the motor shaft end-on (see in sections 3.4.1 to 3.4.3).



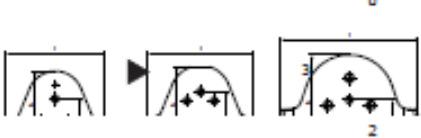
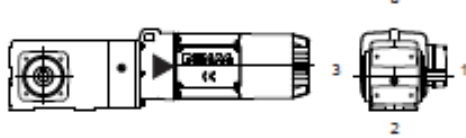
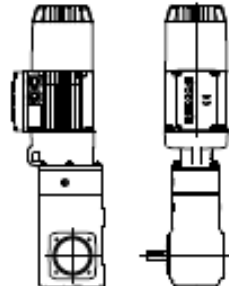
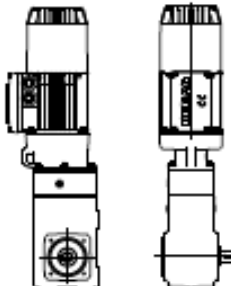
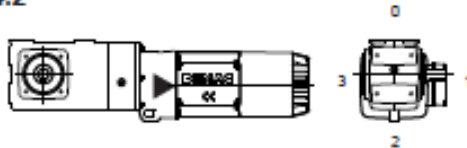
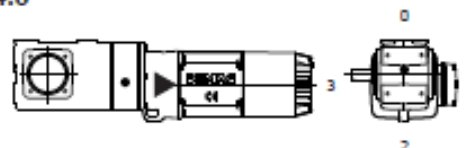
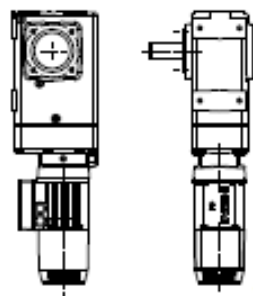
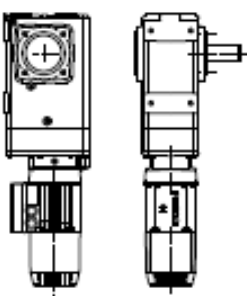
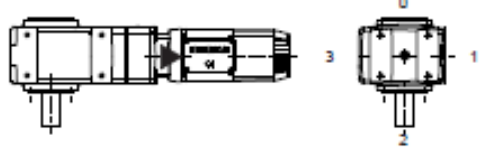
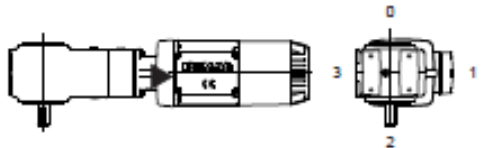
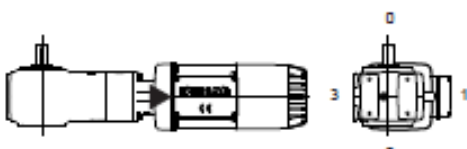
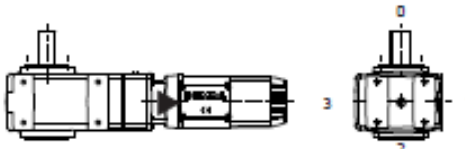
Gearbox transmission ratio: Refer to the “Transmission ratio i” column in the “Angular geared motors” selection tables for the transmission ratio.

W Style Gearbox | Model Codes

Universal type U

Model B14, V19, V18

Both output sides with centring and threaded hole, bolting surfaces on gearbox end and underside with threaded hole

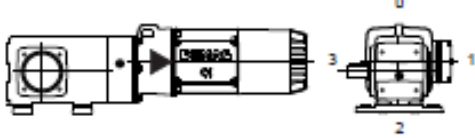
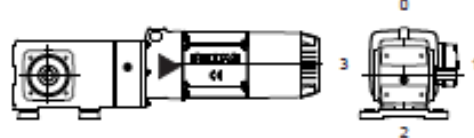
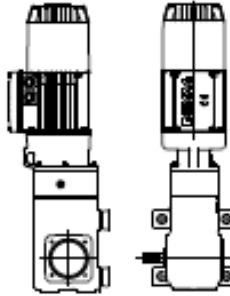
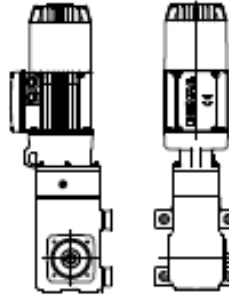
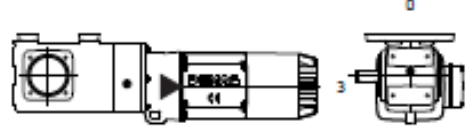
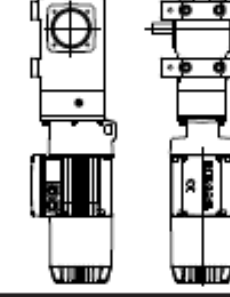
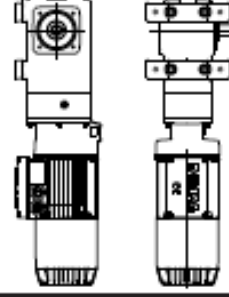
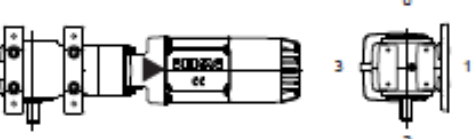
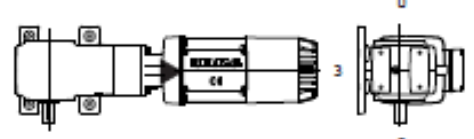
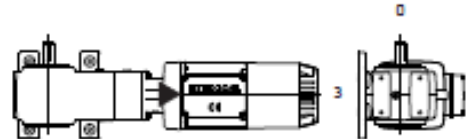
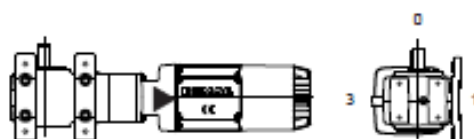
B14.0  41881844.eps	B14.6  41881744.eps
B14.1 Terminal box position code according to model code B14.0  41881844.eps	B14.7 Terminal box position code according to model code B14.6  41881944.eps
B14.2  41882044.eps	B14.8  41882144.eps
B14.3 Terminal box position code according to model code B14.0  41882244.eps	B14.9 Terminal box position code according to model code B14.6  41882344.eps
V18.0  41292844.eps	V18.1  41292944.eps
V19.0  41292844.eps	V19.1  41292744.eps
► View to determine the terminal box position	

W Style Gearbox | Model Codes

Foot-mounted type G

Model B3, B6, B8, B7, V5, V6

Foot-mounted

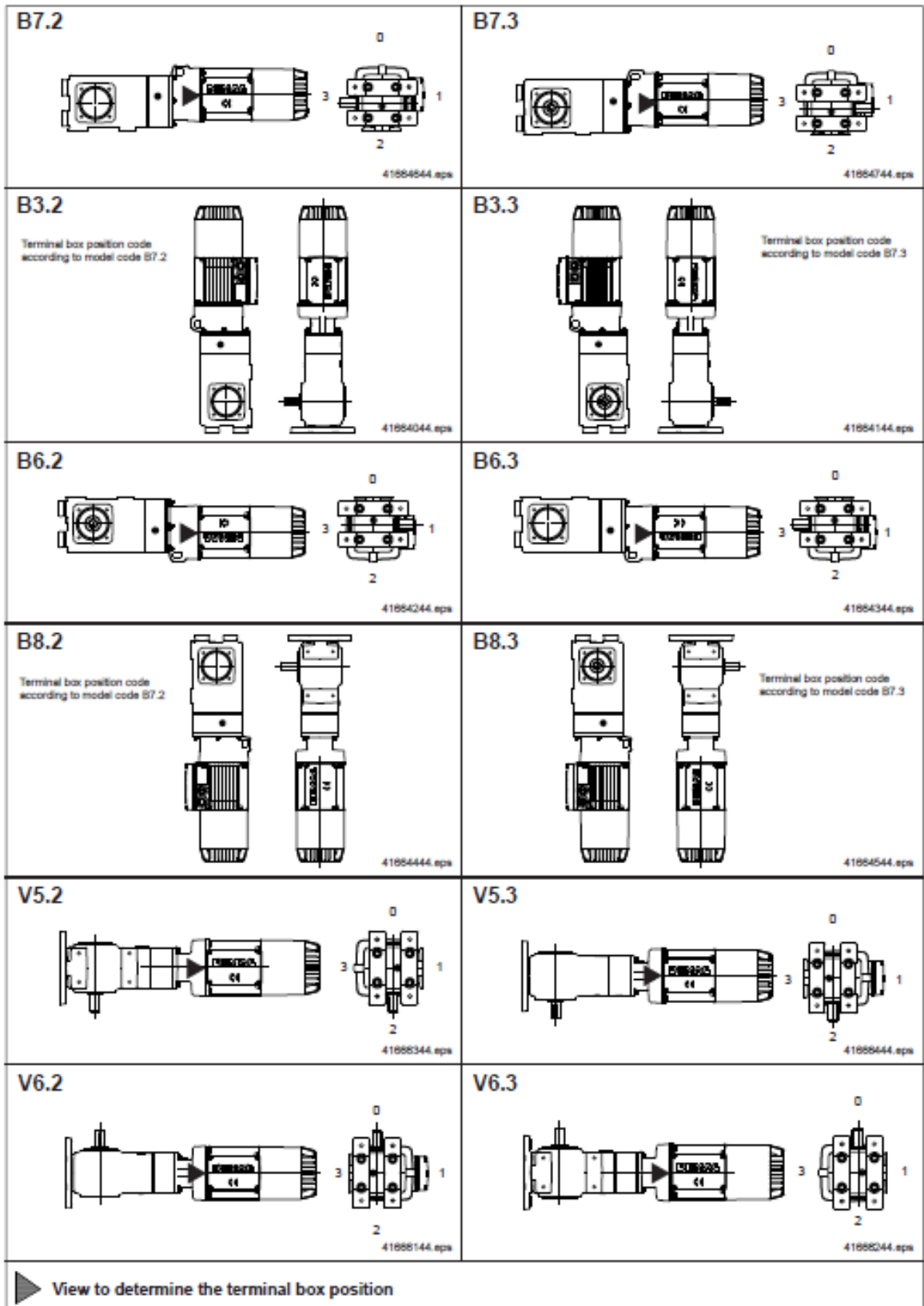
B3.0  41863244.eps	B3.1  41863344.eps
B6.0 Terminal box position code according to model code B3.0  41863444.eps	B6.1 Terminal box position code according to model code B3.1  41863544.eps
B8.0  41863644.eps	B8.1  41863744.eps
B7.0 Terminal box position code according to model code B3.0  41863844.eps	B7.1 Terminal box position code according to model code B3.1  41863944.eps
V5.0  41865044.eps	V5.1  41865144.eps
V6.0  41865244.eps	V6.1  41865344.eps
► View to determine the terminal box position	

W Style Gearbox | Model Codes

Foot-mounted type G

Model B3, B6, B8, B7, V5, V6

Foot-mounted

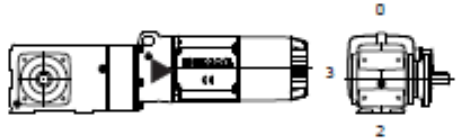
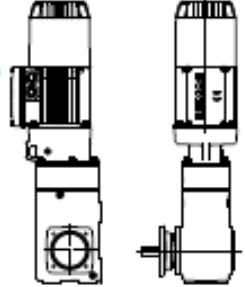
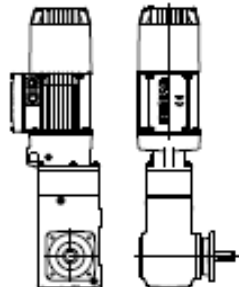
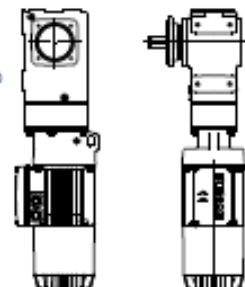
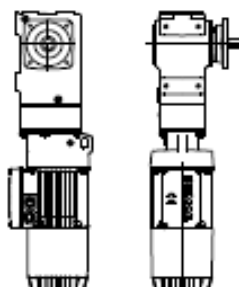
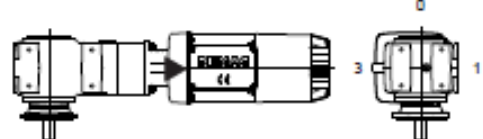
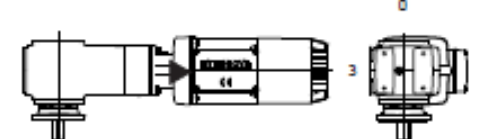
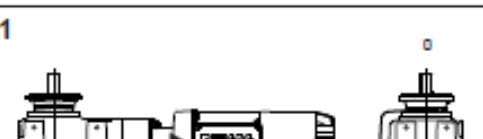


W Style Gearbox | Model Codes

Flange-mounted type F

Model B5, V1, V3

Flange mounting arrangement with through-holes

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B5.1 Terminal box position code according to model code B5.0  41982444.eps	B5.7 Terminal box position code according to model code B5.6  41982744.eps
B5.2  41982944.eps	B5.8  41982944.eps
B5.3 Terminal box position code according to model code B5.0  41291244.eps	B5.9 Terminal box position code according to model code B5.6  41291344.eps
V1.0  41988744.eps	V1.1  41988844.eps
V3.0  41988544.eps	V3.1  41988644.eps
▶ View to determine the terminal box position	

W Style Gearbox | Ratio Ranges

Motor	Possible transmission ratios for gearbox size									
	W 10DD	W 20DD W 20TD	W 30DD W 30TD	W 40DD W 40TD	W 50DD W 60TD	W 80TD W 80QD	W 70TD W 70QD	W 80TD W 80QD	W 90TD W 90QD	W 100TD W 100QD
ZBA	16,8 - 100	27,9 - 90,1	40,9 - 90,1	66,2 - 90,8	—	—	—	—	—	—
ZBF	—	97,1 - 369	107 - 369	99,6 - 371	—	155 - 388	—	—	—	—
ZBA/ZBE	10,4 - 100	17,0 - 90,1	28,8 - 90,1	42,9 - 90,8	—	—	—	—	—	—
ZBF	—	97,1 - 279	107 - 369	99,6 - 371	—	113 - 388	—	—	—	—
ZBA/ZBE	8,64 - 100	13,7 - 90,1	20,5 - 90,1	33,4 - 90,8	—	—	—	—	—	—
ZBF	—	97,1 - 279	107 - 369	99,6 - 371	—	113 - 388	—	—	—	—
ZBA/ZBE	5,34 - 100	10,6 - 90,1	16,8 - 90,1	22,6 - 90,8	—	—	—	—	—	—
ZBF	—	97,1 - 195	107 - 286	99,6 - 371	—	113 - 388	—	—	—	—
ZBA	6,73 - 100	11,7 - 90,1	18,6 - 90,1	30,2 - 90,8	—	—	—	—	—	—
ZBF	—	97,1 - 195	107 - 286	99,6 - 371	—	113 - 388	—	—	—	—
ZBA	5,34 - 100	7,07 - 90,1	10,2 - 90,1	16 - 90,8	—	—	—	—	—	—
ZBF	—	97,1 - 195	107 - 286	99,6 - 371	—	113 - 388	—	—	—	—
ZBA/ZBE	5,34 - 100	5,45 - 90,1	6,78 - 90,1	10,4 - 90,8	15,4 - 94,3	27,6 - 95,1	45,8 - 102	73 - 113	—	—
ZBF	—	97,1 - 155	107 - 259	99,6 - 371	99,9 - 386	113 - 388	113 - 399	126 - 441	126 - 434	214 - 485
ZBA/ZBE/ZBP	5,34 - 75,2	8,73 - 90,1	14,6 - 90,1	22,6 - 90,8	36,1 - 94,3	55,7 - 95,1	102 - 102	—	—	—
ZBF	—	97,1 - 140	107 - 234	99,6 - 371	99,9 - 386	113 - 388	113 - 399	161 - 441	278 - 434	485 - 485
ZBA/ZBE/ZBP	5,34 - 39	5,45 - 68	5,24 - 90,1	6,46 - 90,8	11,8 - 94,3	20,8 - 95,1	28,8 - 102	45,5 - 113	—	—
ZBF	—	—	107 - 107	99,6 - 175	99,9 - 251	113 - 388	113 - 399	126 - 441	126 - 434	140 - 485
ZBA/ZBE/ZBP	5,34 - 68	5,45 - 90,1	5,24 - 90,1	4,86 - 90,8	7,91 - 94,3	20,8 - 95,1	28,8 - 102	35,6 - 113	—	—
ZBF	—	97,1 - 114	107 - 186	99,6 - 270	99,9 - 386	113 - 388	113 - 399	126 - 441	126 - 434	121 - 485
ZBA/ZBE/ZBP	—	5,45 - 58,7	5,24 - 90,1	3,87 - 90,8	6,07 - 94,3	12,6 - 95,1	17,7 - 102	24,9 - 113	45 - 111	—
ZBF	—	—	—	—	—	113 - 351	113 - 399	126 - 441	126 - 434	121 - 485
ZBA/ZBE/ZBP	—	5,45 - 68,0	8,03 - 90,1	13,9 - 90,8	21,7 - 94,3	34,3 - 95,1	59,0 - 102	101 - 113	—	—
ZBF	—	—	—	—	—	113 - 388	113 - 399	126 - 441	176 - 434	303 - 485
ZBA/ZBE/ZBP	—	5,45 - 23,7	5,24 - 36,6	3,87 - 59,9	4,94 - 94,3	12,6 - 95,1	17,7 - 102	19,8 - 113	32,2 - 111	—
ZBF	—	—	—	—	—	113 - 140	113 - 259	126 - 397	126 - 434	121 - 485
ZBA/ZBE/ZBP	—	5,45 - 58,7	6,78 - 90,1	9,44 - 90,8	11,8 - 94,3	20,8 - 95,1	41,2 - 102	65,8 - 113	111 - 111	—
ZBF	—	—	—	—	—	113 - 351	113 - 399	126 - 441	126 - 434	190 - 485
ZBA/ZBE/ZBP	—	5,45 - 37,8	5,24 - 63,1	3,87 - 90,8	4,94 - 94,3	12,6 - 95,1	17,7 - 102	19,8 - 113	25,5 - 111	—
ZBF	—	—	—	—	—	113 - 227	113 - 399	126 - 441	126 - 434	121 - 485
ZBA/ZBE/ZBP	—	—	—	3,87 - 59,9	4,94 - 78	12,6 - 95,1	13,7 - 102	15,3 - 113	17,7 - 111	32,4 - 113
ZBF	—	—	—	—	—	—	113 - 259	126 - 397	126 - 434	121 - 485
ZBA/ZBE/ZBP	—	—	—	5,76 - 66,2	9,51 - 78	14,0 - 95,1	25,0 - 102	41,0 - 113	71,2 - 111	—
ZBF	—	—	—	—	—	—	113 - 399	126 - 441	126 - 434	121 - 485
ZBA/ZBE/ZBP	—	—	—	3,87 - 33,4	4,94 - 46	12,6 - 76,6	13,7 - 102	15,3 - 113	15,9 - 111	23,1 - 113
ZBF	—	—	—	—	—	—	113 - 144	126 - 222	126 - 391	121 - 485
ZBA/ZBE/ZBP	—	—	—	3,87 - 59,9	6,07 - 78	12,6 - 95,1	17,7 - 102	27,7 - 113	52,2 - 111	79,7 - 113
ZBF	—	—	—	—	—	—	113 - 259	126 - 441	126 - 434	121 - 485
ZBA/ZBE/ZBP	—	—	—	3,87 - 24,4	4,94 - 32,5	12,6 - 55,7	13,7 - 102	15,3 - 113	15,9 - 111	16,5 - 113
ZBF	—	—	—	—	—	—	113 - 113	126 - 178	126 - 278	121 - 485
ZBA/ZBE/ZBP	—	—	—	3,87 - 52,7	4,94 - 78	12,6 - 95,1	13,7 - 102	21,9 - 113	40,5 - 111	70,4 - 113
ZBF	—	—	—	—	—	—	113 - 231	126 - 354	126 - 434	121 - 485
ZBA	—	—	—	3,87 - 42,9	4,94 - 61,5	12,6 - 95,1	13,7 - 102	15,3 - 113	15,9 - 111	16,5 - 113
ZBF	—	—	—	—	—	—	113 - 180	126 - 286	126 - 434	121 - 485
ZBA/ZBE/ZBP	—	—	—	—	4,94 - 46	12,6 - 69,3	13,7 - 102	15,3 - 113	15,9 - 111	16,5 - 113
ZBF	—	—	—	—	—	—	113 - 126	126 - 222	126 - 361	121 - 485
ZBA/ZBE/ZBP	—	—	—	—	4,94 - 7,91	12,6 - 14	13,7 - 25	15,3 - 41	15,9 - 71,2	16,5 - 113
ZBF	—	—	—	—	—	—	—	—	—	121 - 121
ZBA/ZBE/ZBP	—	—	—	—	4,94 - 24,4	12,6 - 38	13,7 - 81,7	15,3 - 113	15,9 - 111	16,5 - 113
ZBF	—	—	—	—	—	—	—	126 - 126	126 - 227	121 - 381
ZBA/ZBE	—	—	—	—	—	—	13,7 - 17,7	15,3 - 27,7	15,9 - 52,2	16,5 - 88,5
ZBF	—	—	—	—	—	—	—	—	—	—
ZBA/ZBE	—	—	—	—	—	—	13,7 - 13,7	15,3 - 21,9	15,9 - 40,5	16,5 - 70,4
ZBF	—	—	—	—	—	—	—	—	—	—
ZBA	—	—	—	—	—	—	—	15,3 - 19,8	15,9 - 35,8	16,5 - 55,1
ZBF	—	—	—	—	—	—	—	—	—	—
ZBA/ZBE	—	—	—	—	—	—	—	15,3 - 17	15,9 - 32,2	16,5 - 55,1
ZBF	—	—	—	—	—	—	—	—	—	—
ZBA/ZBE	—	—	—	—	—	—	—	—	15,9 - 25,5	16,5 - 44,2
ZBF	—	—	—	—	—	—	—	—	—	—

20315044_039

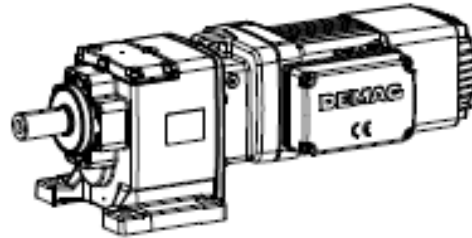
The table lists the possible transmission ratio ranges for the motor/gearbox combination

for direct drive input. Since the outputs and number of poles of the motors are not considered here, the selected combination must be checked together with the relevant duty factor. The duty factor must not be less than 0,9 and should not exceed 15.

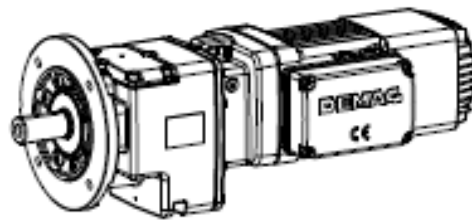
D Style Gearbox Types

Housing designs

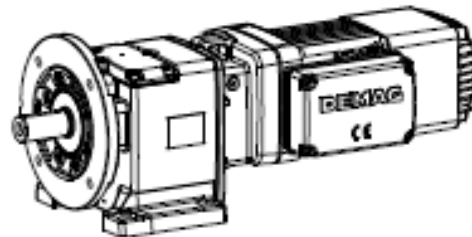
DGV 11 - DGV 41
Foot-mounted type



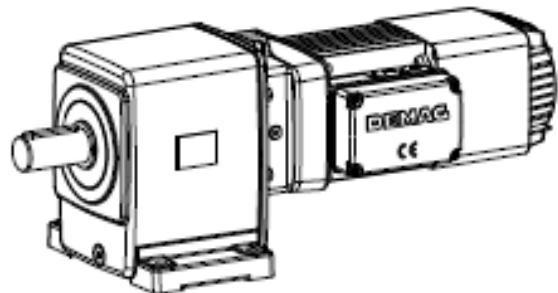
DFV 11 - DFV 41
Flange-mounted type



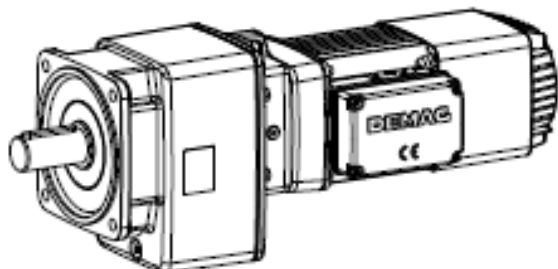
DUV 11 - DUV 41
Combined foot/flange-mounted type



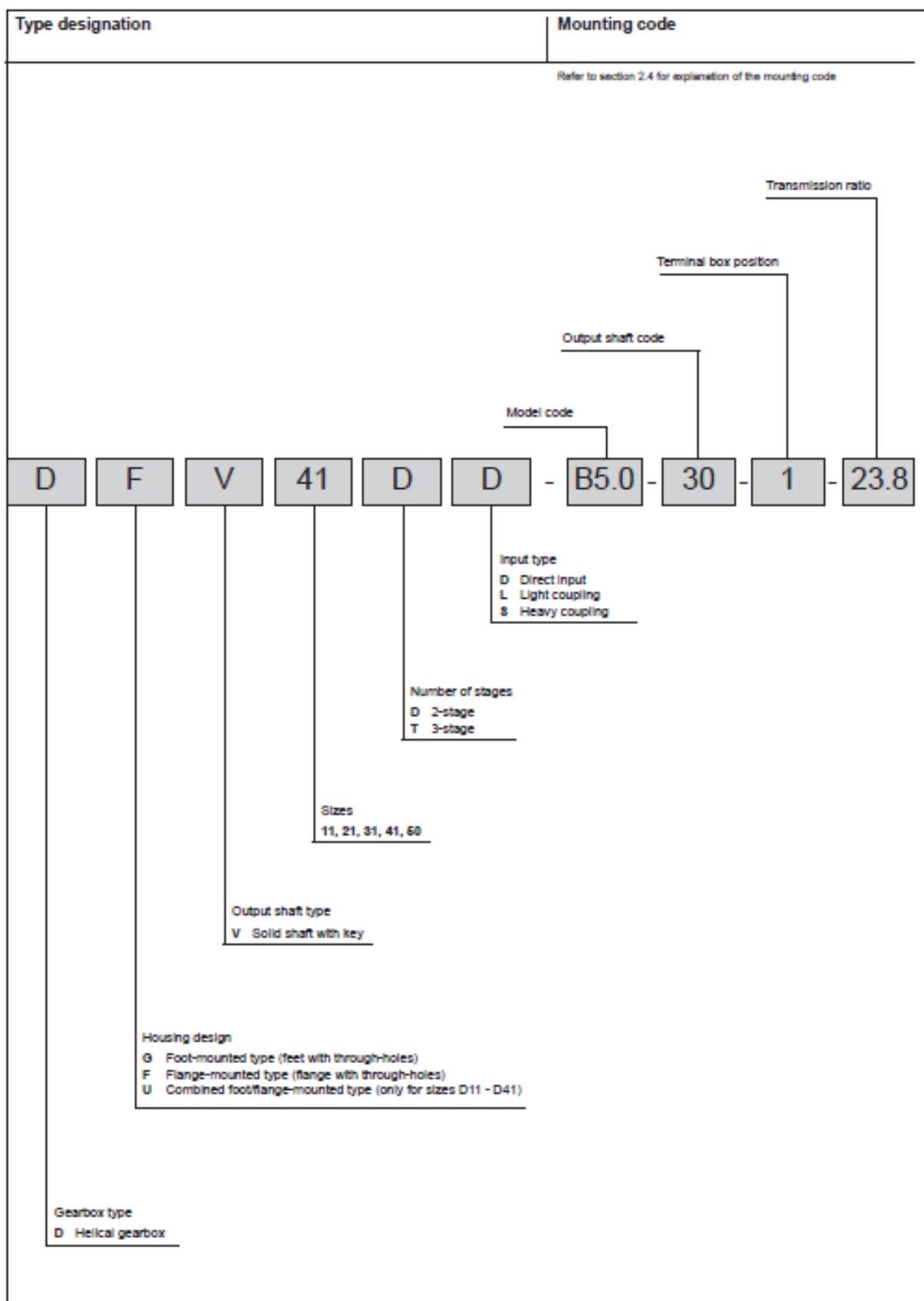
DGV 50
Foot-mounted type



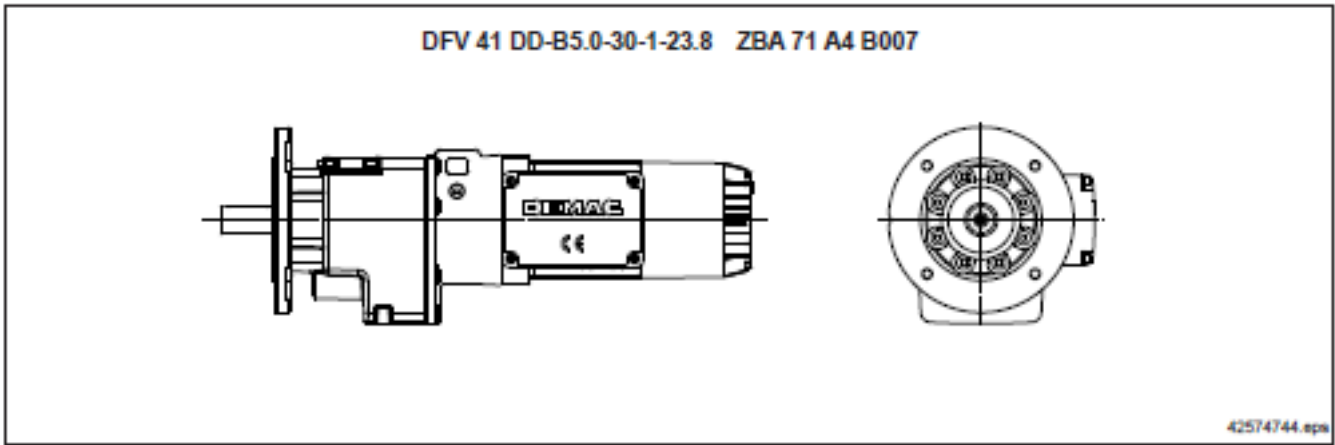
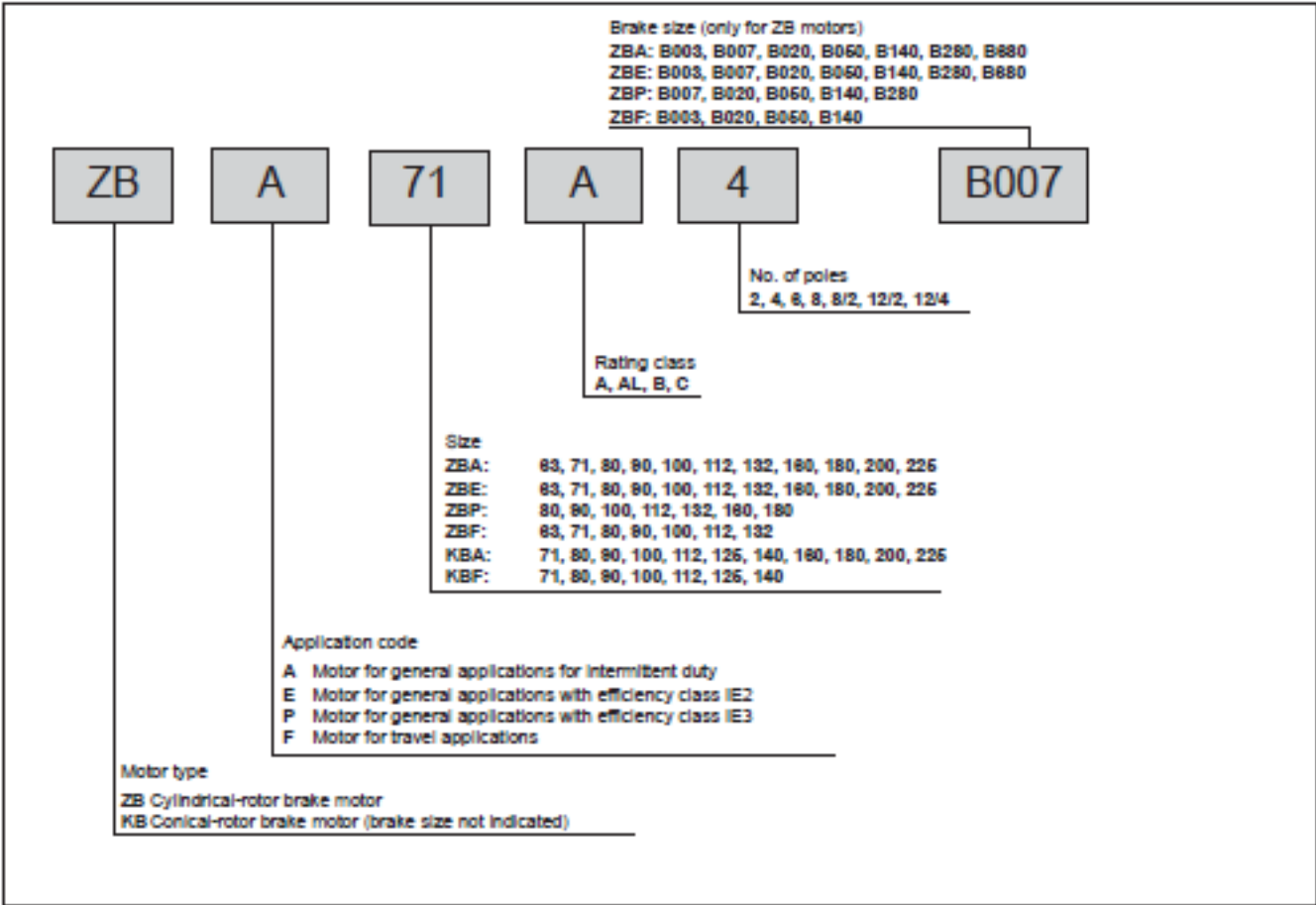
DFV 50
Flange-mounted type



D Style Gearbox | Mounting Code Designations



D Style Gearbox | Motor & Brake Type Designation



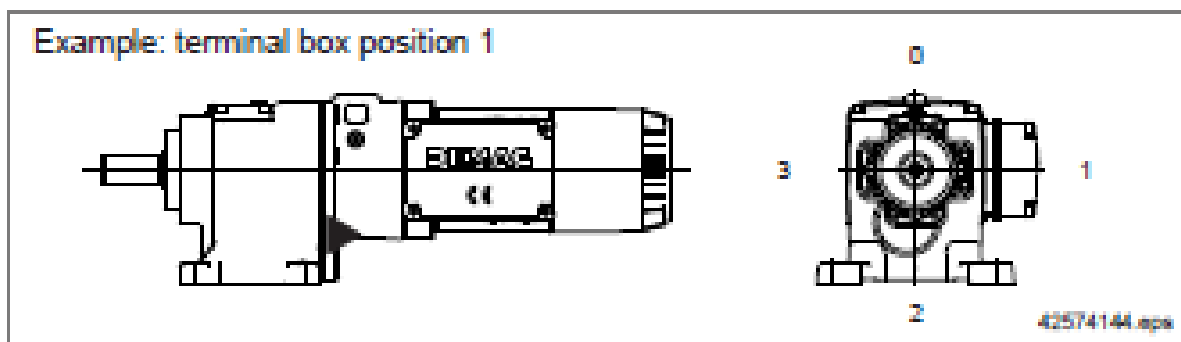
D Style Gearbox | Output Shaft Codes

Output shaft code: The output shaft type is indicated by the following codes:

Size			D 11	D 21	D 31	D 41	D 60
Standard output shaft code	Solid shaft with key	V	20	25	25 ¹⁾ 30	30	40
	Solid shaft without key	V	120	125	130	130	140
Option output shaft code	Solid shaft with key in inches	V	220	225	230	230	240

See section 6.1.2.1 Output shaft type for optional shafts and their dimensions. For these shafts, an extra price and non-standard delivery times apply.

Terminal box position: The terminal box of the motor can be installed in four different positions. The positions are defined as 0, 1, 2 or 3 looking at the motor shaft end-on.



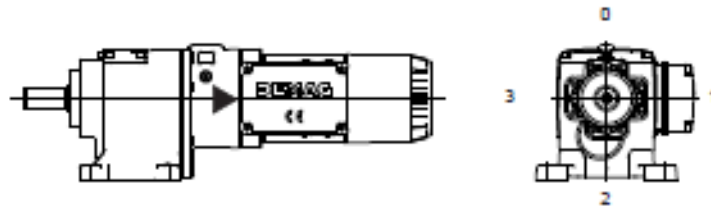
D Style Gearbox | Model Codes

Foot-mounted type G

Model B5, B6, B8, B7, V5, V6

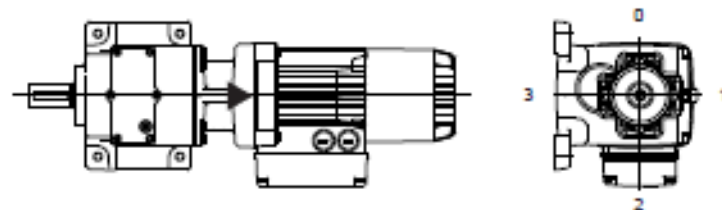
Foot-mounted

B3



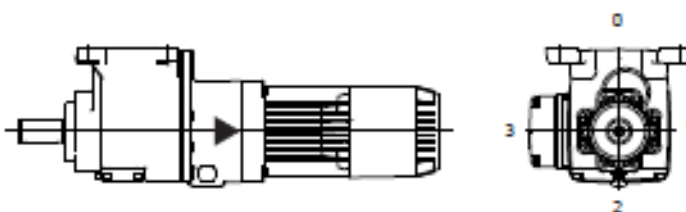
42574144.eps

B6



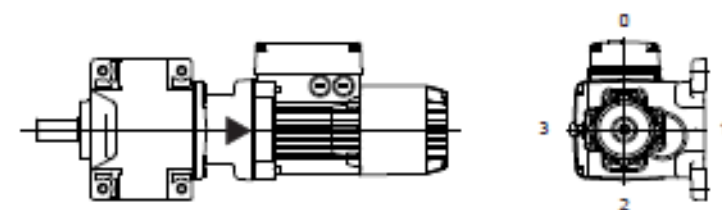
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B8



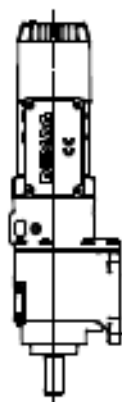
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B7



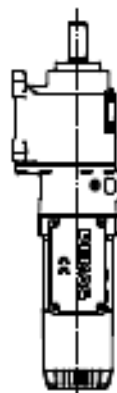
42574444.eps

V5



42574544.eps

V6



42574644.eps

Terminal box position code
according to model code B3

► View to determine the terminal
box position

D Style Gearbox | Model Codes

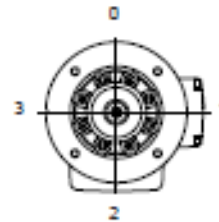
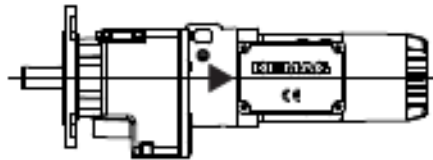
Flange-mounted type F

Model B5, V1, V3

Flange mounting arrangement with through-holes

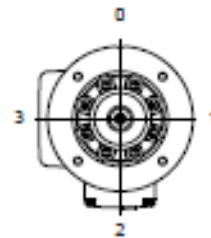
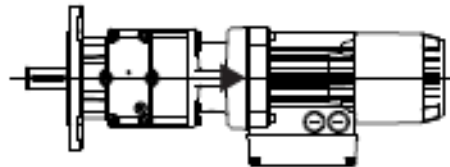
(Model B14, V19, V18 flange-mounted with threaded bore holes for D11 – D41)

B5.0
(B14.0)



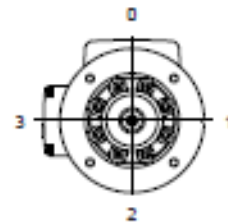
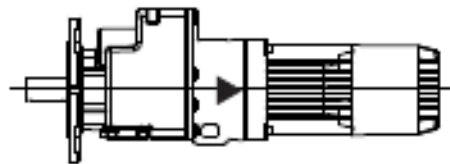
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B5.1
(B14.1)



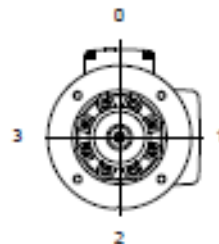
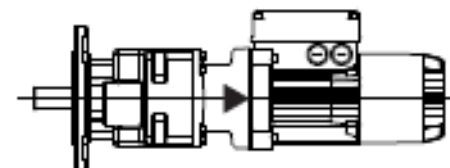
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B5.2
(B14.2)



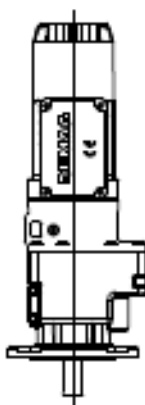
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B5.3
(B14.3)



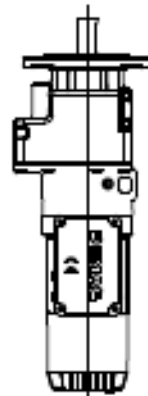
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V1
(V18)



42575144.eps

V3
(V19)



42575244.eps

Terminal box position
code according to model
code B5.0 (B14.0)

► View to determine the terminal
box position

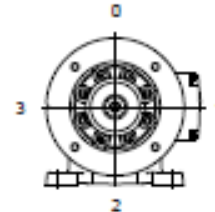
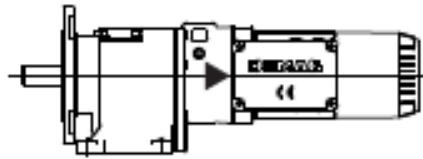
D Style Gearbox | Model Codes

Model B35, V15, V36

Foot-mounted and flange-mounted with through-holes

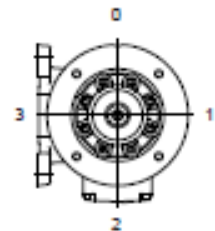
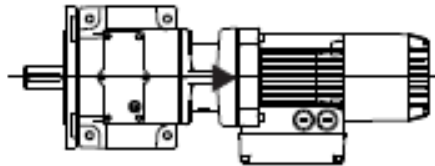
(Model B34, V15.4, V36.4 foot-mounted and flange-mounted with threaded bore holes)

B35.0
(B34.0)



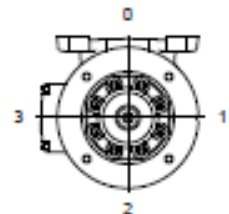
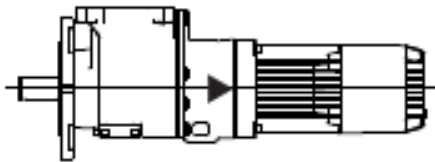
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B35.1
(B34.1)



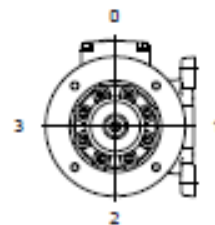
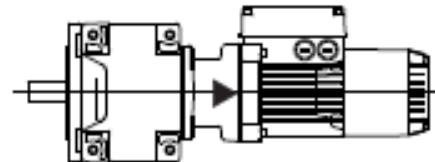
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B35.2
(B34.2)



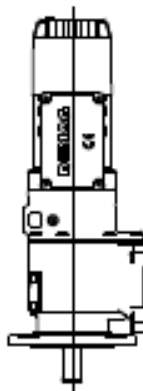
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B35.3
(B34.3)



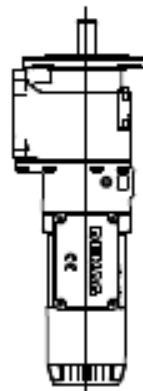
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V15.5
(V15.4)



42575744.eps

V36.5
(V36.4)



42575844.eps

Terminal box position
code according to model
code B35.0 (B34.0)

► View to determine the terminal
box position

D Style Gearbox | Ratio Ratings

Motor		Possible transmission ratios for gearbox size				
		D 110D	D 210D	D 310D D 31TD	D 410D D 41TD	D 600D D 60TD
ZBA	83A	9,59 - 66,5 –	14,7 - 66,5 –	23,1 - 61,6 66,4 - 253	37,1 - 58,6 49,5 - 240	–
ZBA/ZBE	83B	4,89 - 66,5 –	6,16 - 66,5 –	11,5 - 61,6 66,4 - 253	17 - 58,6 49,5 - 240	–
ZBA/ZBE	71A	3,63 - 66,5 –	4,66 - 66,5 –	6,53 - 61,6 66,4 - 165	12,1 - 58,6 49,5 - 240	–
ZBA	71B	2,88 - 66,5 –	2,88 - 66,5 –	4,19 - 61,6 66,4 - 165	7,33 - 58,6 49,5 - 240	–
ZBA/ZBE	80A	2,88 - 66,5 –	2,88 - 66,5 –	3,23 - 61,6 66,4 - 134	3,92 - 58,6 49,5 - 186	9,87 - 61,4 71,9 - 251
ZBA/ZBE/ZBP	80B	2,88 - 25,9 –	2,88 - 37,1 –	3,23 - 61,6 –	3,67 - 58,6 49,5 - 97,6	5,69 - 61,4 71,9 - 164
ZBA/ZBE/ZBP	90A	2,88 - 44,8 –	2,88 - 59,8 –	3,23 - 61,6 66,4 - 86,6	3,67 - 58,6 49,5 - 152	4,46 - 61,4 71,9 - 251
ZBA/ZBE/ZBP	90B	–	–	3,23 - 51,5 –	3,67 - 58,6 –	2,78 - 61,4 –
ZBA/ZBE/ZBP	100A(L)	–	–	3,23 - 21,1 –	3,67 - 33,6 –	2,78 - 54,7 –
ZBA/ZBE/ZBP	100B	–	–	3,23 - 35,9 –	3,67 - 45,4 –	2,78 - 61,4 –
ZBA/ZBE/ZBP	112A	–	–	–	–	2,78 - 50,8 –
ZBA/ZBE/ZBP	132A(L)	–	–	–	–	2,78 - 33,1 –
ZBA/ZBE/ZBP	132B	–	–	–	–	2,78 - 23,2 –
ZBA	132C	–	–	–	–	2,78 - 40
ZBA/ZBE/ZBP	180A(L)	–	–	–	–	2,78 - 29,5 –
ZBA/ZBE/ZBP	180B	–	–	–	–	2,78 - 4,46 –
ZBA/ZBE/ZBP	180A	–	–	–	–	2,78 - 17,6 –

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The table lists the possible transmission ratio ranges of motor/gearbox combinations for direct drive input.

Since the outputs and number of poles of the motors are not considered here, the selected combination must be checked together with the relevant duty factor. The duty factor must not be less than 0,9 and should not exceed 15.

Motors | Overview

Properties of Demag AC Motors | Demag ZB Cylindrical-Rotor Brake Motors

Demag ZB cylindrical-rotor brake motors are designed for optimum use with the modular gearbox system and its options and are available with and without a brake. ZBA/ZBE motors have outputs from 0.24 HP to 60 HP; ZBP motors have outputs from 0.74 HP to 20 HP.

ZBA, ZBE and ZBP motors can also be supplied without a gearbox with IEC mounting dimensions. Brake motors can be used wherever driven machinery needs to be brought to a standstill more quickly or precisely.

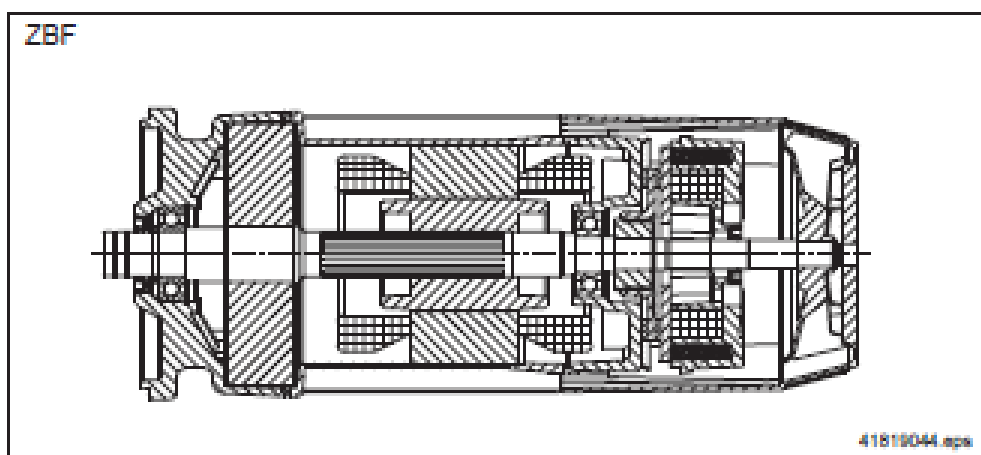
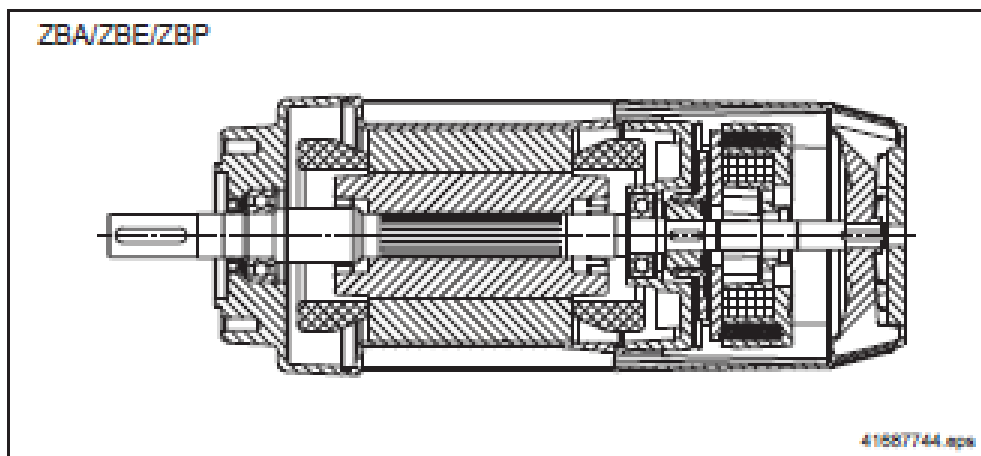
The separately controllable brake can easily be remotely released.

The integrated flywheel of ZBF motors and their electrical rating provide for smooth acceleration and braking of travel drives in line operation.

ZBA, ZBE or ZBP motors should be used if cylindrical-rotor brake motors are to be operated with inverters.

ZBE motors satisfy the efficiency requirements of energy efficiency class IE2 and must only be operated at outputs ≥ 1 HP as a replacement for drives that were sold before 1 July 2021.

ZBP motors satisfy the efficiency requirements of energy efficiency class IE3.



Motors | Overview

Properties of Demag AC Motors | Demag KB Conical-Rotor Brake Motors

The Demag KB conical-rotor brake motor is a combination of electric motor and spring-actuated brake in one unit functioning on the conical-rotor principle.

The motor is of squirrel-cage rotor design.

Motor outputs range from 0.64 HP to 74 HP in intermittent duty. When the motor is switched on, an axial force is produced by the magnetic field in the conical air gap. This overcomes the force of the brake springs and pulls the axially sliding rotor into the stator until it is stopped by the limit in the bearing. The brake ring is released from the brake cap and the motor then starts running.

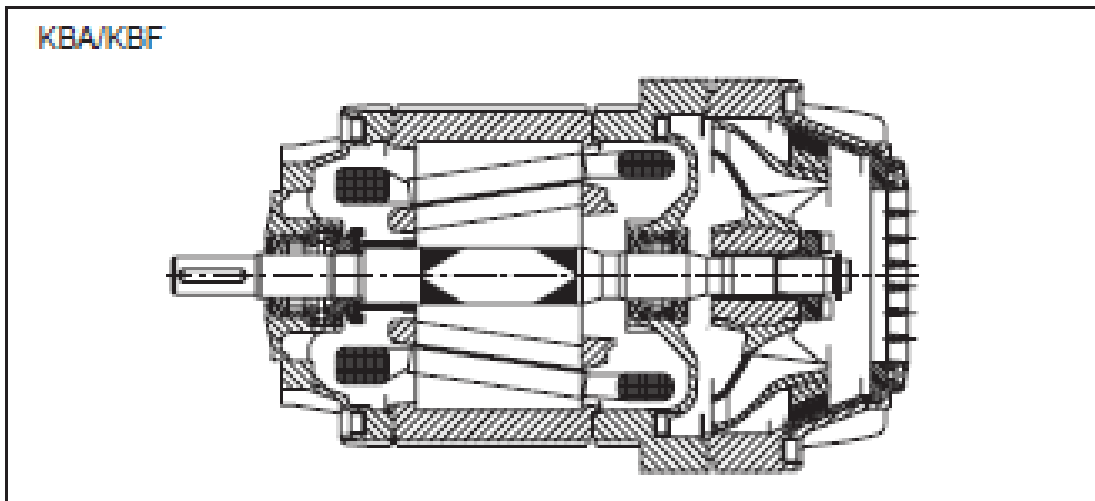
When the motor is switched off or power fails, the motor is mechanically braked. The brake springs displace the rotor and push the brake disc and brake ring against the brake surface.

This brake principle requires no special control.

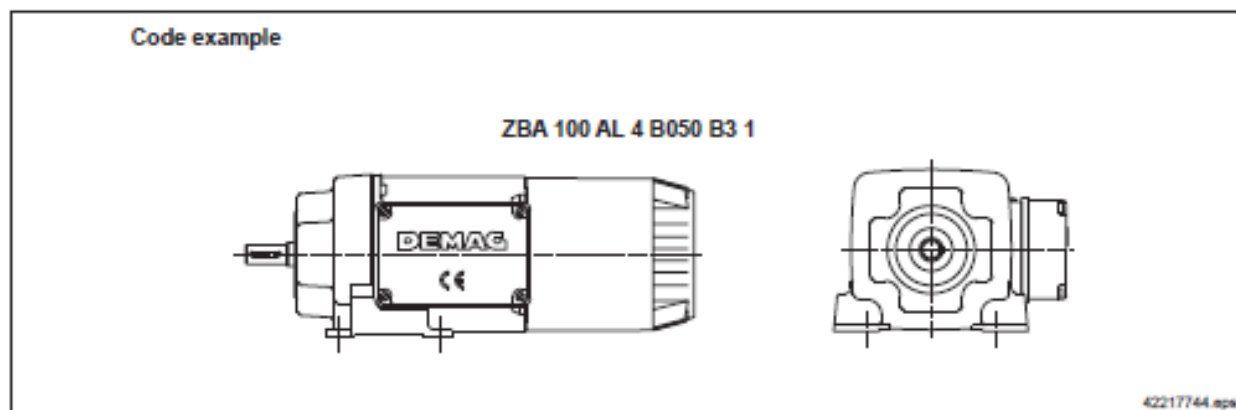
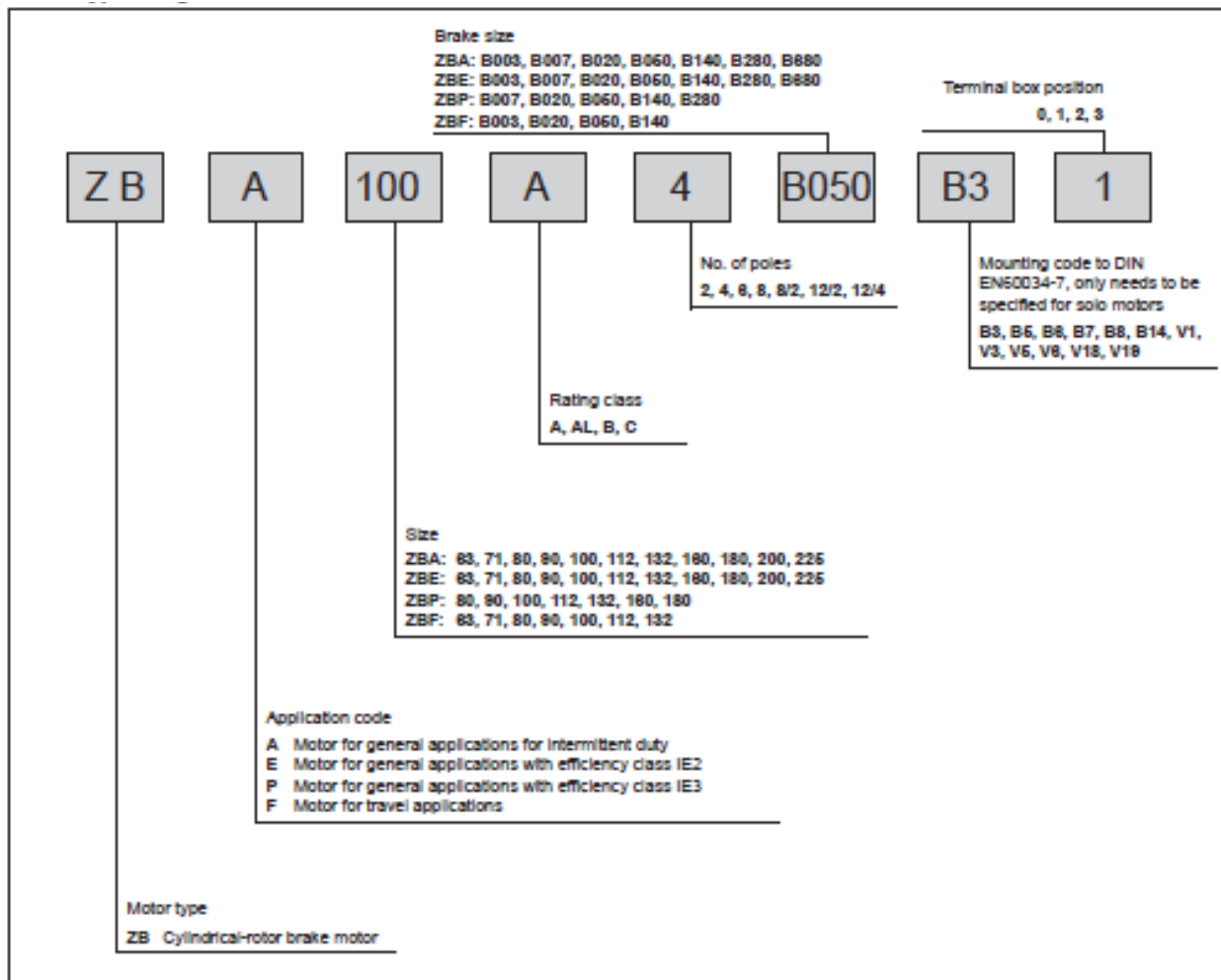
The conical-rotor design makes it possible to simply implement microspeed drives¹⁾. In this case, two brake motors are combined in such a way that large speed differences of up to 1:500 can be achieved even with line-fed operation, e.g. for greater positioning accuracy.

Due to their electrical rating and flywheel (in the form of a heavy fan and/or heavy coupling), KBF motors are particularly suitable for smooth acceleration and braking of travel drives.

KBA motors should be used if conical-rotor brake motors are to be operated with inverters.



ZB Motor | Mounting Code Designation

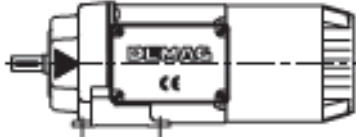
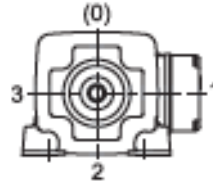
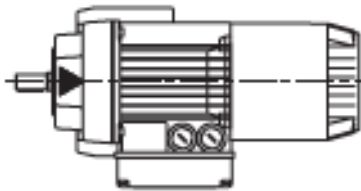
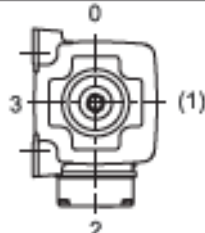
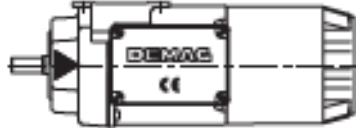
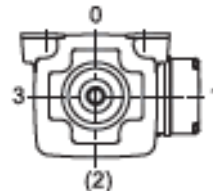
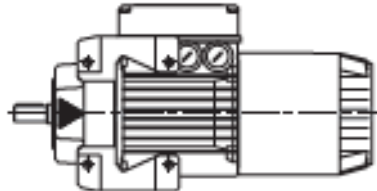
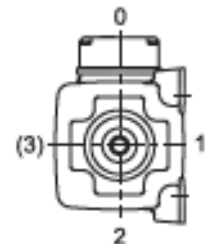
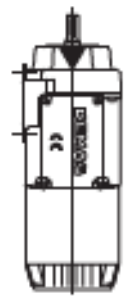


ZB Motor | Motor Code Designation

ZB solo motors

B3, B6, B8, B7, V5, V6 foot-mounted type

Foot-mounted

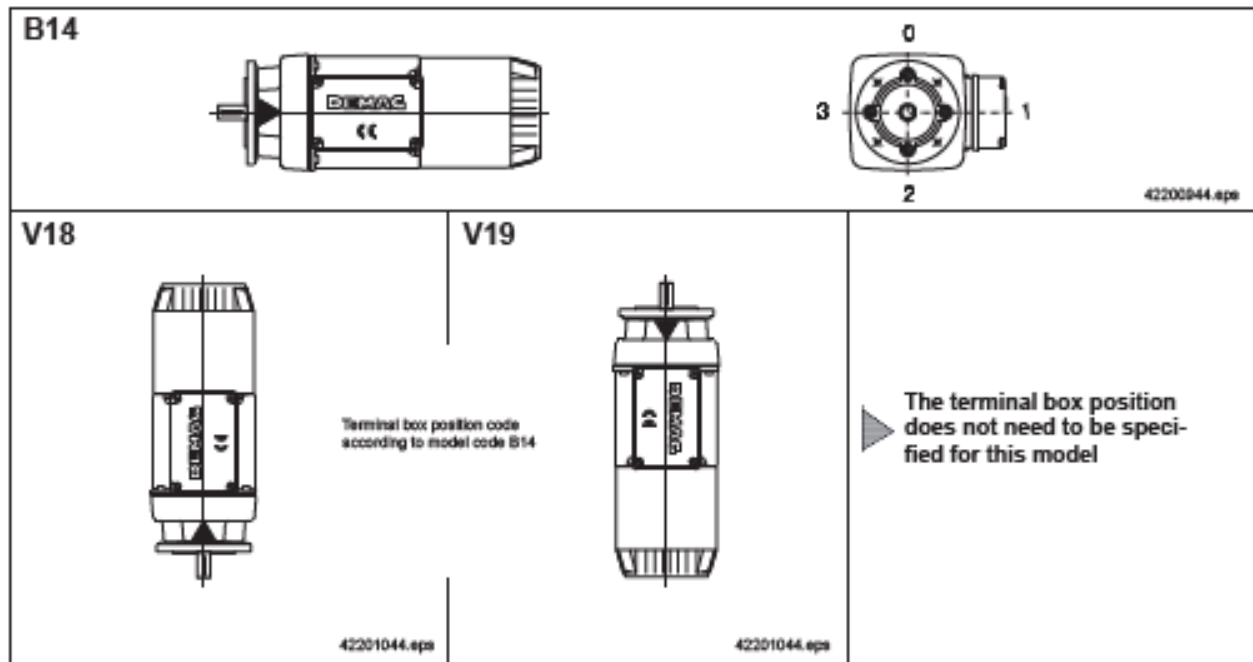
B3 	 43474244.eps
B6 	 43473944.eps
B8 	 43474144.eps
B7 	 43474244.eps
V5  Terminal box position code according to model code B3 42201744.eps	V6  42201744.eps ► View to determine the terminal box position

ZB Motor | Motor Code Designation

ZB solo motors

Flange-mounted type B14, V18, V19

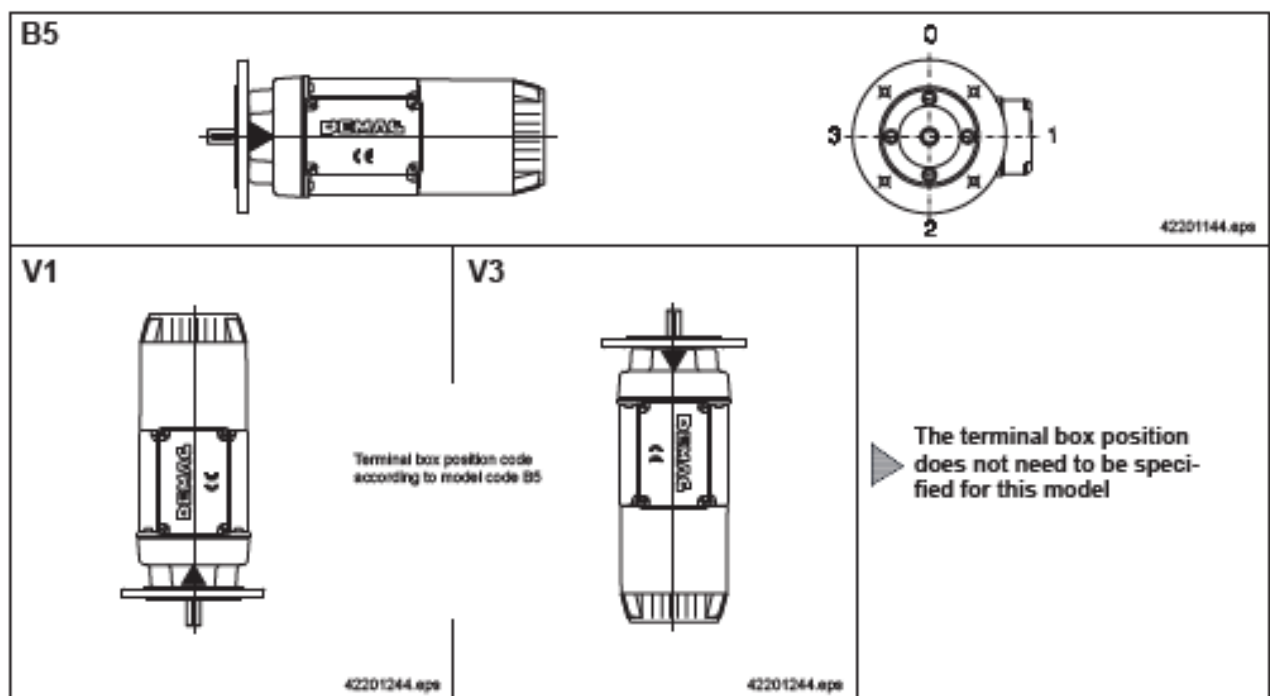
Flange mounting arrangement with internal thread



ZB solo motors

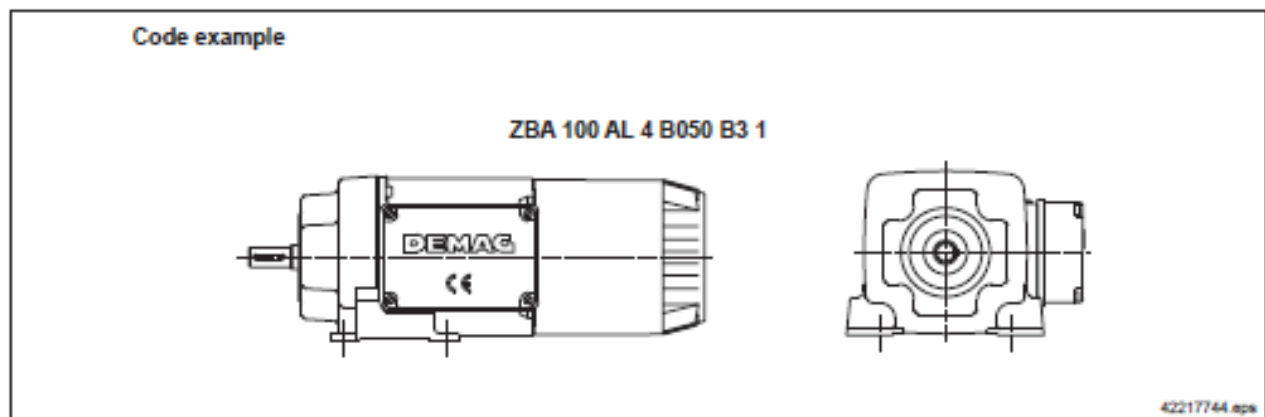
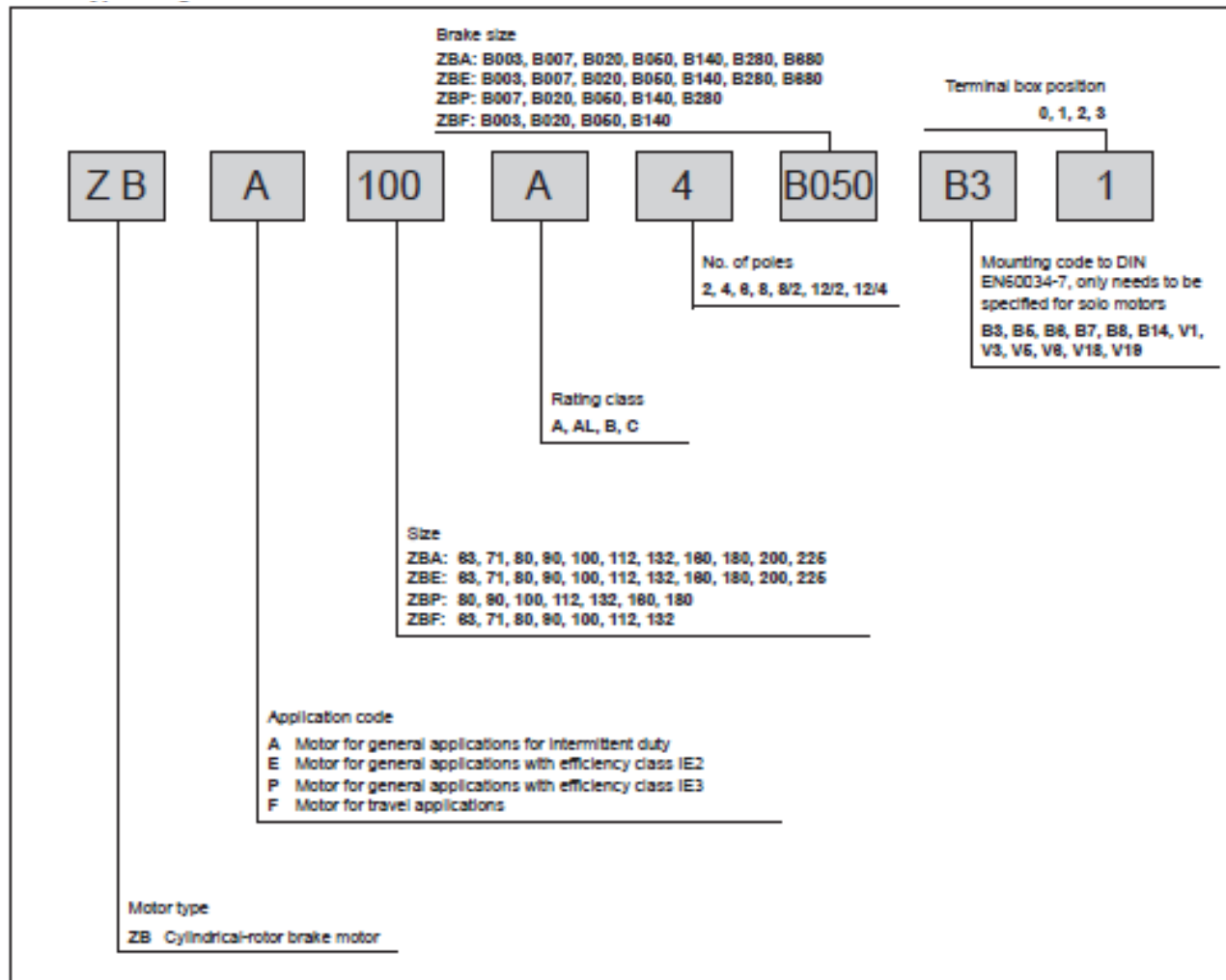
Flange-mounted type B5, V1, V3

Flange mounting arrangement with through-holes



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ZB Motor | Mounting Code Designation



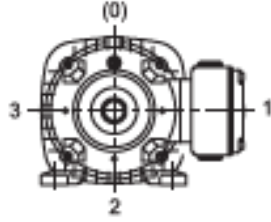
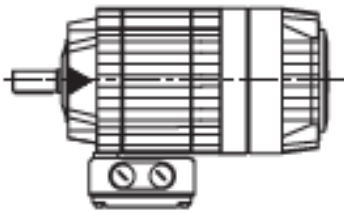
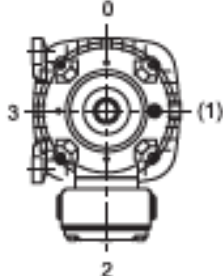
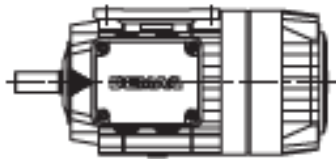
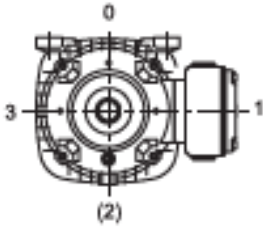
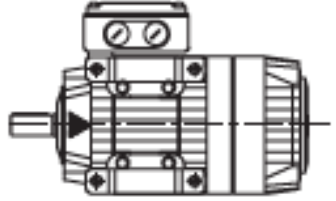
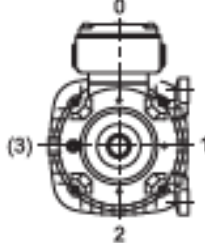
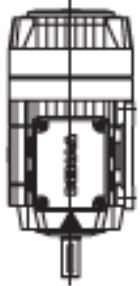
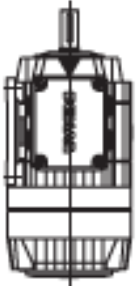
ZB Motor | Motor Code Designation

KB solo motor model code

B3, B6, B8, B7, V5, V6 foot-mounted type

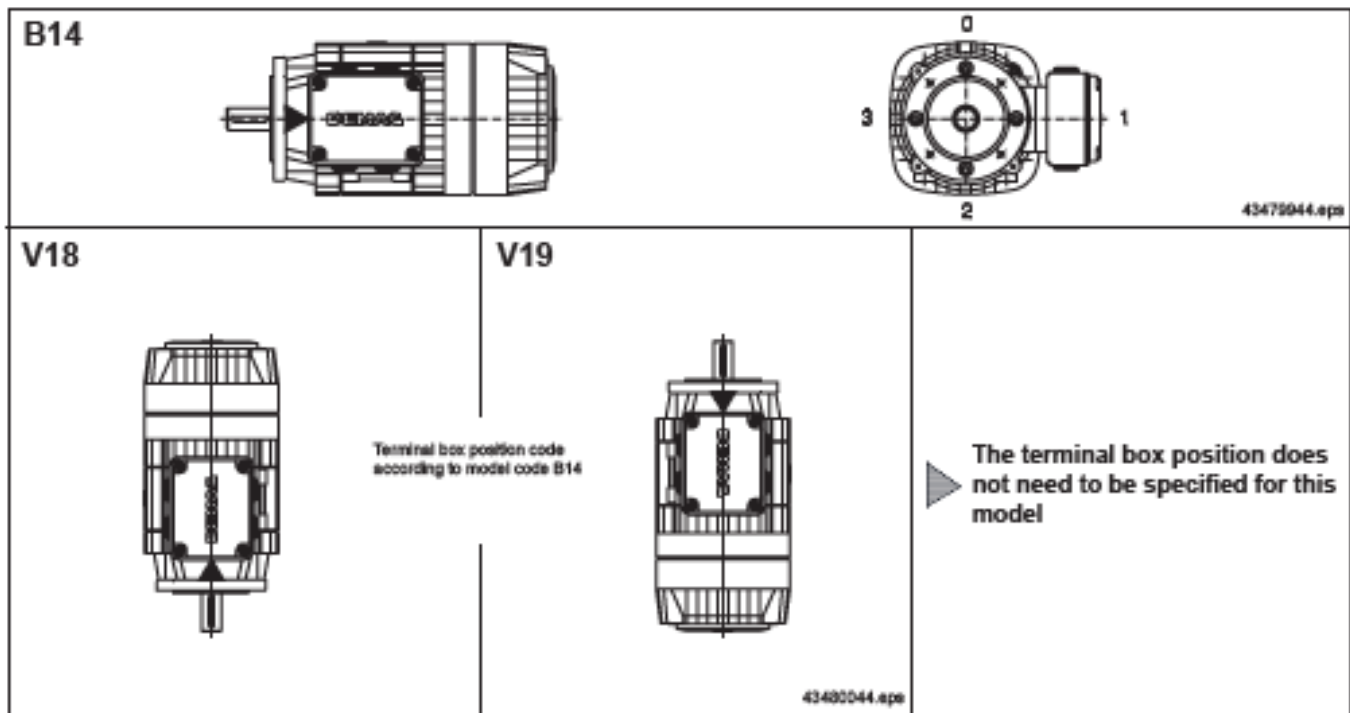
Foot-mounted

Combined foot/flange-mounted type B34, B35

B3 (B34.0) (B35.0)		 43474544.eps
B6 (B34.1) (B35.1)		 43474544.eps
B8 (B34.2) (B35.2)		 43474744.eps
B7 (B34.3) (B35.3)		 43474844.eps
V5 (V15.4) (V15.5) 	V6 (V36.4) (V36.5)  43479844.eps	Terminal box position code according to model code B3  View to determine the terminal box position

ZB Motor | Motor Code Designation

KB solo motor model code
 Flange-mounted type B14, V18, V19
 Flange mounting arrangement with internal thread



KB solo motor model code
 Flange-mounted type B5, V1, V3
 Flange mounting arrangement with through-holes

